This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

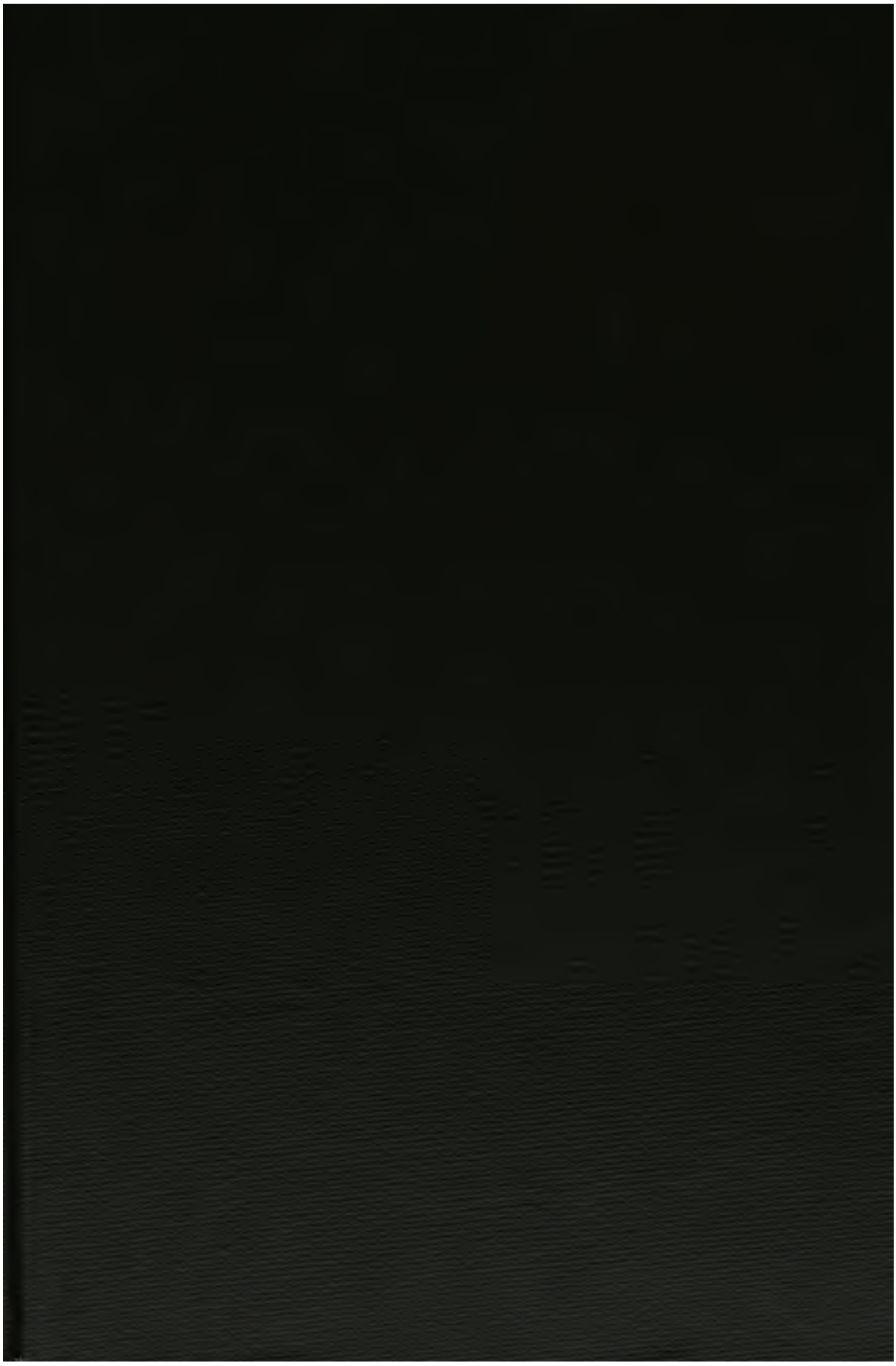
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`



STANFORD UNIVERSITY
LIBRARIES

WITH FLASHLIGHT AND RIFLE

VOL. I

WITH FLASHLIGHT AND RIFLE

A RECORD OF HUNTING ADVENTURES AND OF STUDIES IN WILD LIFE IN EQUATORIAL EAST AFRICA BY

C. G. SCHILLINGS

TRANSLATED BY

FREDERIC WHYTE

WITH AN INTRODUCTION BY

SIR H. H. JOHNSTON, G.C.M.G., K.C.B.

ILLUSTRATED WITH 302 OF THE AUTHOR'S "UNTOUCHED" PHOTOGRAPHS TAKEN BY DAY AND NIGHT

VOL. I

LONDON: HUTCHINSON AND CO.
PATERNOSTER ROW
1906

S 23
V.

TO

MY FRIEND

HERNY SUERMONDT

I

DEDICATE

THIS BOOK

A BULL GIRAFFE ON THE *OUT VIVE*

Author's Preface

THE illustrations in this book, with a very few exceptions, which are indicated, have been reproduced from the original photographs taken by myself.

Dr. Ludwig Heck, in the course of his appreciative introduction to the German edition, refers to these photographs as *Natururkunden*—certificated records, as it were, of the scenes from wild life therein depicted. And the fact that they are absolutely free from "retouching" of any kind will be held to justify him in the use of that term. Absolutely the only photograph that has been worked up in any way is the one (on p. 393) of two lions attacking an ox. The negative of this was damaged while I was developing it. I have described elsewhere the feeling of satisfaction with which, six months afterwards, I received a telegram from the Fatherland to announce that it was *gerettet*—restored!

My pictures may be classified as (1) ordinary photographs taken by daylight at varying ranges; (2) those taken with a telephoto-lens; (3) those taken at night time by flashlight.

The telephoto pictures should not be held too close to the eye. To get them into focus, so to speak, the reader should hold them at arm's length.

* * * * *

Conspicuous among those to whom I owe grateful acknowledgments for encouragement and assistance in connection with my work are the following: Duke Johann Albrecht of Mecklenburg; the Duke of Ratibor; Prince Eulenberg; Prince Franz Arenberg; Freiherr von Richthofen; Dr. Stübel; Count Götzen; Herr von Soden; Freiherr von Varnbüler, Count von Hohenthal und Bergen; Freiherr von Reischach; Herr von Plato; Count Bylandt-Rhendt; my uncle Field-Marshal Ritter von Keil; Dr. Moebius; Dr. Thiel; Major Thiel; Professor Lampert; Professor von Steindachner; Hon. Walter Rothschild; Dr. E. Hartert; Dr. Ritter Lorenz von Liburnau; Professor Volkens; Professor Tornier; Dr. Grünfeld; Professor L. C. Neumann-Toulouse; and Herr Oscar Neumann.

Dr. A. Reichenow and Professor Matschie have supported me in the kindest and most friendly way for years past, and I must single them out for special thanks. Herr Goerz has also been intimately connected with my enterprise through his generosity in giving me facilities for perfecting my photographic equipment in his optical establishment. I am indebted also in an extreme degree to my friends Herr Henry Suermondt, Dr. Ludwig Heck, Dr. Künstler (who went through some bad times with me on my expeditions), and, finally, Captain Merker, who furthered my plans and assisted me in every way.

Without Captain Merker's valuable "expert" advice I should hardly have been able to carry out my journeys; and during my severe illness in 1902 he took some capital photographs with my telephoto-lens, five of which are included in this work.

Dr. Eggel, Dr. Groothufen, and Dr. Phillips, Herr Warnholtz and Herr Meyer, Professor Schweinfurth, Dr. Richard Kant, and Messrs. Louis Draemann, Felix Schüll, Alfred Kaiser, C. W. Hobley, and Tomkins (to whose great kindness I have referred on p. 672), and Captain von der Warwitz have also earned my gratitude in various ways.

* * * * *

In spite of my best endeavours, this work will be found to have many faults: I can only hope that my readers will be merciful to them. I find photographing lions an easier matter than writing books!

C. G. SCHILLINGS.

GÜRZENICH BEI DÜREN, GERMANY.

NOTE.—Thanks are due from the translator to Mr. W. von Knoblanch, who has kindly read the proofs for him; and to Mr. R. Lydekker, who has revised the spelling of all the zoological and geographical names.

Introduction

CONSCIOUSLY or unconsciously, Herr Schillings has followed in the footsteps of Mr. Edward North Buxton, who was the first sportsman of repute having the courage to stand up before a snobbish public and proclaim that the best sport for a man of cultivated mind is the snapshotting with the camera (with or without the telephotographic lens), rather than the pumping of lead into elephants, rhinoceroses, antelopes, zebras, and many other harmless, beautiful, or rare beasts and birds. If any naturalist-explorer previously deprecated the frightful devastation which followed in the track of British sportsmen, and a few American, Russian, German, or Hungarian imitators, it was thought that he did so because he was a bad shot, or lacked the necessary courage to fire at a dangerous beast. Mr. Buxton, however, had proved his manhood (so to speak) in the many sporting adventures which preceded his conversion. Therefore people have listened to him, and the way has been paved for such a work as that of Herr Schillings.

This is the sportsmanship of the future. The present writer does not mean to say that he or any other explorer, when and if they visited Africa, would not still use every opportunity of obtaining good specimens of rare wild beasts, birds, and reptiles for our museums, and most of all for the information of zoologists, who must perforce carry on many of their studies within the pale of civilisation. Neither does the writer of this Introduction condemn the killing of leopards, lions, hyænas, jackals, hippopotamuses, or elephants — at any rate in moderation — where they become really dangerous to human beings, to the keeping of domestic animals, or to the maintenance of cultivated crops.

But these concessions do not cover, excuse, or indemnify the ravages of European and American sportsmen, which are still one of the greatest blots on our twentieth-century civilisation.

Herr Schillings refers to the case of the late Dr. Kolb, a German who came out to British East Africa in connection with a Utopian undertaking called "Freeland," and who, when his political scheme became impossible, applied himself to the reckless slaughter of the big game of British East Africa. In the course of two or three years he had slain—for no useful purpose whatever—one hundred and fifty rhinoceroses (a companion killed one hundred and forty more), each one being a far more interesting mammal than himself. At the end of this career of slaughter, a rhinoceros killed him—perhaps appropriately.

In spite of game regulations and the creation of game-reserves (to which admission can generally be obtained through the exercise of special influence, sometimes rightly exercised in the cause of science), one has only to look through the columns of "Society" information in the London weekly and daily press to realise that this work of wanton destruction of the big game of tropical Africa is still going on at a considerable rate. It seems to be still the accepted panacea in British or Continental society that a young or a middle-aged man, who has been crossed in love, or has figured in the Divorce Court, or in some way requires to *faire peau neuve*, must go out to Africa and kill big game. Make a note of the names mentioned if you will, and inquire twelve months afterwards what has become of the creatures thus destroyed. Many of the trophies, after the carriers of the expedition had feasted on the flesh of the slain, were ultimately abandoned on the line of march as being too heavy to carry. Even those that reached the home of the sportsman were ultimately relegated to obscurity, and did not add to our zoological information. In short, there is very little set-off in gain to the world's knowledge for the destruction of one of Africa's most valuable assets—its marvellous Mammalian fauna. A Schillings, a Lord Delamere, a Major Powell Cotton, a Delmé Radcliffe, a Sydney Hinde, or a Carlos d'Erlanger may kill a relatively large number of beasts and birds in their sporting adventures; but—if one may put it thus—every shot tells. All the persons named—to say nothing of Mr. E. N.

Buxton and others recently at work in Northern Nigeria—have killed with discretion and strict moderation, and with the definite object of increasing our store of knowledge and enriching the national collections, while they have accompanied their cautious toll of the African fauna by valuable studies—generally photographic—of the animals' life-habits.

It is not against the actions of such men as these that Herr Schillings or the writer of this Introduction raises any protest; it is against the idea that the destruction of the African fauna is part of a fashionable man's education, against the damage done by a hundred obscure shooters that the protest is necessary. For this reason public opinion should strengthen as far as possible the wise action of Governments in protecting the world's fauna all the world over, wherever the creatures thus protected do not come into too dangerous competition with the welfare of human beings. Moreover, it is for the welfare of humanity in general that this plea is entered. The world will become very uninteresting if man and his few domestic animals, together with the rat, mouse, and sparrow, are its only inhabitants amongst the land vertebrates. Man's interests must come first, but those very interests demand food for the intellect. Æsthetically, the egret, toucan, bird of paradise, grebe, sable, chinchilla, and fur-seal are as important as the well-dressed woman. The viper, lion, tiger, crocodile, wolf, vulture, and rhinoceros have all their places to fill in our world-picture. They are amazingly interesting, and therefore their destruction

should only be carried out to the degree of keeping them in their proper sphere.

This lesson that we are learning in Africa applies also at home, where we should learn to value the natural beauties of our home scenery, especially its own *individuality*. It should be made illegal to carry on the worship of the pheasant (a toothsome and a beautiful bird, but not a true native) at the expense of the lives of owls and stoats and weasels that are true British subjects, and without which our landscapes lose part of their national character. The otter is quite as valuable as the salmon ; the fox is not more worthy of encouragement than the wild swan. A nice balance must be struck ; and our clergy must inveigh against the national sin of scattering greasy paper over the loveliest nooks of English scenery.

We have not yet reached the greasy-paper outrage in the African wilderness ; but, as Herr Schillings points out, the African fauna is rapidly disappearing before the uncontrolled attacks of man. He is quite right to lay stress on this important fact, that all the wrong-doing does not rest with the white man. The Negro or the Negroid, armed with the white man's weapons, is carrying on an even more senseless work of devastation. The present writer has witnessed in East Africa troops of uncontrolled Somali adventurers, and Swahilis from the coast, led by Goanese, invading the wilder districts of East Africa, and slaughtering beasts by hundreds and even thousands for their meat, horns, tusks, and, above all, their hides. It is an irony which has entered into

the soul of Major Powell Cotton, that, while the institution of the game-reserve rigidly excludes the cautious European naturalist from the killing of one "protected" bird or beast, in and out of that reserve African natives or half-castes apparently pursue their game-destruction unchecked. The reason of this is want of money to pay for close supervision and gamekeeping. These African Protectorates and Colonies, under no matter what flag, are poor. They yield as yet a local revenue which leaves a considerable gap when compared with their narrowest expenditure. To maintain an efficient control over these vast game-reserves needs the expenditure, not of a few hundreds of pounds annually, but of a few thousands. Yet this control over these future National Parks could be maintained efficiently for a relatively small sum of money. Will not the growth of education, the dawning æsthetic sense amongst the governing authorities in Britain, France, Germany, Portugal, Italy, Belgium, Egypt, Spain, and Liberia bring about the provision of sufficient funds to preserve for the delight and wonderment of our descendants the vestiges of the Miocene, Pliocene, and Pleistocene fauna of Africa?

It may be said without exaggeration that only one other such work of real African natural history, as that in which Herr Schillings describes the wild life of Eastern Equatorial Africa, has hitherto been presented to the stay-at-home reader, and that is Mr. J. G. Millais' *Breath from the Veldt.* The writer of this Introduction subscribes with pleasure to the remarkable accuracy of

Herr Schillings' observations on the habits of the birds and beasts he mentions and illustrates. With Herr Schillings it is an illustration of the old nursery story of *Eyes and No Eyes*. It gives one somewhat of a feeling of shame to think that this quite young man should in some seven years have learnt and recorded more that was true and new about the wild life of East Africa than has been accomplished by officials, traders, and explorers, both German and British, of twenty, fifteen, and ten years' acquaintance with this part of Africa. His book is a real "Natural History," in the true sense of the words.

What we require nowadays is the work of the biologist, the anatomist who can examine and describe minutely and accurately the physical characteristics of living forms. Then, in addition, we want the natural historian, the individual who can as faithfully and minutely record the life-habits of the same creatures—a study quite as important as that of their anatomy, and a study in which there is an enormous leeway to make up. As Herr Schillings points out, until, say, ten years ago, there was a great inaccuracy and sparsity in the information given (very often copied by one author from another) of the life-habits of wild beasts and birds in Africa. Either these were not thought worth studying, or the writer, the explorer, deemed it sufficient to repeat stories told him by the natives, or rash conclusions at which he had himself arrived after very little evidence. It is interesting to listen to all that natives can record of the habits of birds and beasts; and yet, although

they can tell one many a true detail, they will mix up the true and the false, the mythical and the fabulous, as readily as did our forefathers in these British Islands, who could repeat in one natural-history book after another the ridiculous story that barnacle-geese were produced by bivalve molluscs, or that swallows hibernated at the bottoms of ponds, or that toads were found alive after being embedded in the rocks for countless centuries. The natural historian of to-day must be an educated man, not jumping too rashly at conclusions, and not even trusting his own eyes and ears too implicitly, but checking his information over and over again before he gives it to the world.

The writer of this Introduction has travelled more widely and extensively in Africa—even in East Africa—than Herr Schillings; but his time and attention have often been occupied by many other matters than natural history. In his observations, therefore, on the life-habits of these East African birds and beasts he willingly retires into the background, and would in almost all cases subscribe without cavil to the correctness and value of Schillings' descriptions. He has, however, here and there ventured to correct his spelling of East African words, where this, through oversight or mishearing, has been incorrectly rendered. Herr Schillings has not been able to excel in every branch of African research, and has evidently not studied to any extent the structure of the Masai language (a Nilotic Negro tongue), or he would attach no importance to the theory of Captain Merker that the Masai are a branch of the Hebrew race. The writer of this

Introduction had hoped that at last the lost ten tribes of Israel had been allowed to rest in peace, and it is a matter (to him) of much regret that Captain Merker, who has written such valuable studies on the folklore and customs of the Masai, should have again revived this hobby of the nineteenth century by deducing from his observations that the Masai—an ancient mixture of Negro and Gala—are a people of Semitic origin. The linguistic evidence to support this theory is valueless, if a careful study is made of the other idioms of the Nilotic Negro peoples. The slight non-Negro element in the Masai tongue is akin to Somali and Gala, and has either been borrowed direct from contact with those peoples of Hamitic (Caucasian) stock, or may have arisen from the ancient fusion of the two races on the Negro borderland. The Somali and Gala languages belong to the Hamitico-Libyan family, which possibly included the ancient Egyptian speech; and this group has an extremely distant connection in its most remote origin with the Semitic languages, of which Hebrew is one of the many dialects. The customs of the Masai, which Captain Merker deems to be particularly Hebrew, are met with in other groups of Nile Negroes, amongst Hamite peoples, South Arabians, and ancient Egyptians. In venturing to express, very humbly, his deep appreciation of Herr Schillings' natural-history studies, the writer of this Introduction does not wish at the same time to endorse the theories attributed to Captain Merker. These, however, form no essential part of the most beautiful, accurate, and complete picture of the East African wilderness which has yet been given to

us by any writer. This book is equivalent, in the case of the stay-at-home reader, to a sojourn of six months amongst the wild animals of the Ethiopian region; while it is bound to produce *nostalgia* in the minds of returned veterans.

H. H. JOHNSTON.

Contents of Vol. I

CHAP.		PAGE
I.	THE TRAGEDY OF CIVILISATION . . .	1
II.	INSTANTANEOUS PHOTOGRAPHS OF WILD LIFE	16
III.	THE MINDS OF ANIMALS	32
IV.	MASAI-NYIKA	42
V.	TO KILIMANJARO WITH PRINCE LÖWENSTEIN .	59
VI.	BY THE NJIRI LAKES	90
VII.	EVENING ON THE MARSHES	112
VIII.	BY THE STREAM	120
IX.	THE AFRICAN ELEPHANT	141
X.	ELEPHANT-HUNTING	168
XI.	RHINOCEROSES	204
XII.	CATCHING A YOUNG RHINOCEROS . . .	244

Contents of Vol. I

CHAP.		PAGE
XIII.	THE HIPPOPOTAMUS	261
XIV.	BUFFALOES AND CROCODILES . . .	282
XV.	GIRAFFES	304
XVI.	ZEBRAS	326
XVII.	LIONS	343
XVIII.	A LION-HUNT	355

List of Illustrations in Vol. I

	PAGE
Frontispiece: Portrait of the Author	
A Bull Giraffe on the *qui vive*	ix
Euphorbia-tree	xxviii
Gnus roaming over the Velt	1
Candelabra Euphorbia-trees	3
Skeleton of a Rhinoceros	5
Some Remarkable Specimens of Elephant-tusks and Rhinoceros-horns	7
Elephant Skull and Bones	11
Egyptian Geese on the Wing	15
One of my Cameras	17
Orgeich setting the Men to Work	20
Lioness stealing upon an Ox	23, 24
My Photographic Equipment	26
The Effect of the Flashlight	28
Storks wintering in Masai-Nyika	32
"Fatima," a Young Rhinoceros, and her Messmate, the Goat	34
Marabous with the Cook	36
Tame Birds wandering about the Camp	38
Marabous and Vultures	40
A Long Line of Waterspouts	42
Scene on the Rufu River	43
Look-out over Nyika	45
Drinking-places in the Rocky Districts of the Velt	47
Typical Bit of Succulent Velt Vegetation in the Rainy Season	49
Kilimanjaro, with the Kaiser Wilhelm Peak	51
Bit of the Succulent Velt with *Pyrenacantha malvifolia*	53
Bit of the so-called Thorny "Fruit Garden" Velt	55
White-ant Hill on the Velt near the Coast	56
Thorn-bush on the Velt	57
Arab Dhows	59
Cape Guardafui	60
Askaris being put through their Exercises at Tanga	61
Prince Johannes Löwenstein and the Author	64
A Flock of White Storks	67
Storks taking to Flight	69
Mire-drums and Black-headed Herons	71
A Pair of Thomson's Gazelles	73
Darters	75
Herons	77
A Big Haul of Fish	79
Oryx Antelopes	81
Vultures on the Wing	83
Tantulus Ibises in a Swamp	85
The Military Station at Moshi	87
Egyptian Geese on the Swamps	90
The Velt in the Rainy Season	91

List of Illustrations in Vol. I

	PAGE
Flamingoes on the Wing	92
A Pelican	94
The Caravan on the March	95
Cormorants	97
Egyptian Geese	99
Vultures	103
Tropical Vegetation near the Coast	105
Two Huge Pythons	106
Marching through Inundated Swamps	107
Vultures	108
Zebras drinking at Night	109
Vultures and Marabous fraternising	112
Kingfishers looking out for Small Fish	113
Marabous and White Storks	115
A Large Flock of Guinea-fowl	117
Crested Cranes in Flight	118
Old Bulls acting as Sentries to Herds of Gnus	120
The Author in his Tent	121
Bustard in Flight	125
Vultures	127
Waterbuck grazing in the Open	129
A Pair of Large Vultures	131
Zebras	135
Velt Vegetation in the Rainy Season	138
A Lioness and her Prey	139
Candelabra Euphorbia-trees	141
Two Large Bull Elephants	143
A Wonderful Elephant-tusk	145
Armed Natives ("Fundi")	151
A Caravan Load of Elephant-tusks	157
Removing the Skin of an Elephant	165
Distant View of Kilimanjaro	168
Orgeich and the Carriers preparing an Elephant-skin	171
Herd of Elephants	175
Mimosa-trees broken down by Elephants	177
Another Instance of a Broken Mimosa-tree	181
A Dried-up Stream	183
Elephant Skull and Bones	187
A Huge Dead Elephant	189
Scraping the Bed of a Dried-up Stream for Water	193
Elephant-tusks	197
Young Elephant	199
Two Bull Elephants and a Bull Giraffe	201
Skull of an Elephant	203
View on the Njiri Swamps during the Inundations	204
Rhinoceroses bathing	206, 207
Remains of a Rhinoceros	211
Rhinoceros photographed at a Distance of 120 Paces	215
Rhinoceros settling down	219
Rhinoceros with Birds on its Back	219
Rhinoceroses charging	221
Two Dead Rhinoceroses	225
Rhinoceros throwing up its Head	229
Cow Rhinoceros with her Young	231
Four Photographs of Rhinoceroses under a Tree	234, 235
Dead Cow Rhinoceros	237
Dead Bull Rhinoceros	239
Acacia Velt	241
Stormy Weather in the Nyika Country	244
Young Rhinoceros drinking in a Swamp	245
Dead Bull Rhinoceros	249
Young Rhinoceros taking his Milk	251
Another Photograph of the Above	255
Young Rhinoceros, with Goats and Mbega Monkey	257
Dead Cow Rhinoceros with her Young One beside her	259
Snow-white Herons and Black-and-White Ibises	261
Old Bull Hippopotamus	263
Mawenzi Mountain and Kilimanjaro	265
Young Cow Hippopotamus	269
Dragging the Body of a Hippopotamus out of a Pond	273

List of Illustrations in Vol. I

	PAGE
Hippopotamuses at Home	275
A Newly Discovered Vulture on the Skull of a Hippopotamus	277
A Crocodile-infested Stream	282
Buffaloes	283
The Rufu River	287
A Flock of Flamingoes	291
Vultures on a Dead Buffalo	295
Skull of a Buffalo	301
Flocks of Marabous on the Merker Lakes	305
Giraffes ambling away	307
Schillings' Giraffe	309
Bull and Cow Giraffe	313
Giraffes taking to flight among Flute-Acacia Trees	315
Bull Giraffe	317
Giraffes taken with Telephoto Lens	319
A Wounded Bull Giraffe at Close Quarters	323
Female Zebras and a Foal	323
A Halt on the Waterless Velt	326
A Herd of Gnus and Zebras	327
Remarkable Colour-blending of Zebras with their Surroundings	329
A Herd of Zebras	331
Zebras approaching a Drinking-place	333
Zebras drinking	337
View near the Kitumbin Volcano	343
A Frightened Lioness	347
On the Gilei Volcanic Mountain	351
A Bull Gnu, a Thomson's Gazelle, and a Gerenuk Gazelle	355
Three Full-grown Lionesses	357
Male Ostrich near its Nest	363
An Ostrich's Nest	363
The Author questioning an Ol Morani concerning the Habits of Ostriches	367
Orgeich superintending the Transport of a Young Lion into Camp	371
The Skins of Three Lions shot by the Author	373

EUPHORBIA-TREE

GNUS WERE TO BE SEEN IN THOUSANDS ROAMING OVER THE VELT

With Flashlight and Rifle

I

The Tragedy of Civilisation

IN the course of his strenuous career of conquest, civilised man has succeeded during the last hundred years or so in bringing the entire globe more and more under his dominion. Modern inventions have enabled him to make his way into its remotest extremities. A glittering network of iron rails carries us into lands which it would have taken us months and years to get to a short time ago; and ever fleeter vessels bear us in a few weeks to the most distant coasts.

Wherever he goes, the pioneer of civilisation manages to open up for himself new resources, even in regions where they are only to be wrested from Nature with the utmost difficulty; and he strives untiringly to create new assets and to make ready the path of progress. But, side by side with this same progress, much is being destroyed that hitherto has lived undisturbed, working out its evolution in harmony with its environment. Far

from the smoky centres of civilisation, with their rush and turmoil and the unceasing throb and rattle of their machinery, there is at this present moment being enacted a grave and moving and unique tragedy.

As the explorer ruthlessly pursues his victory in every direction, he destroys directly and indirectly everything that stands in his way. The original inhabitants of entire countries have to go under when they cannot hit it off with the invader. With them disappears a rich and splendid fauna, which for thousands of years has made existence possible for the natives, but which now in a few years is recklessly slaughtered. Never before in the history of the world have whole hordes of animals—the larger and stronger animals especially—been killed off so speedily by man.

The flora follows the fauna. Primeval forests are destroyed, or at least injured, and wooded districts often changed into artificial deserts. With the colonist, who drives out the aborigines, there come in other animals which help to drive out the aboriginal fauna; and in the same way the vegetable world also is supplanted. Kitchen gardens and weeds spread everywhere, imprinting a new stamp upon the flora. Those who are familiar with all these circumstances cannot be in doubt as to what is bound to follow. The result must indubitably be this: that the colonist, forcing everything under his rule, will destroy everything that is useless to him or in his way, and will seek only to have such fauna and flora as answer to his needs or his tastes.

Examples of this state of things are to be found in

ll parts of the world. The Indians of North America nd many branches of the Polynesian race may be nstanced: their scattered remnants are hastening towards omplete disappearance. For centuries past civilised

THE CANDELABRA EUPHORBIA TREES ARE A DISTINCTIVE FEATURE OF THE NYIKA COUNTRY

lonists have been waging a war of extinction in the ctic regions against those animals which provide us h furs and blubber.

The Hudson Bay Company has made heavy inroads the number of fur-bearing animals in its own region.

The fur of a sea-otter is now worth over £100; but a complete skin of this animal, such as could be exhibited in a museum, has for years past been unobtainable!

War to the knife was long declared against whales —the largest mammals of our time. (The popular notion that they are fish seems, by the way, almost ineradicable.) But for long they were able to escape complete annihilation in Arctic regions, their capture involving the death of so many determined men engaged in the struggle. Now, however, that the harpoon is no longer slung by the experienced whaler, but is shot into the whale's body out of a cannon; now that whaling has become a science, carried out with the most elaborate and highly finished implements, the last whale will very soon have disappeared.

"Very soon"; for what are a few centuries, when we think of the long ages which were needed for the evolution of the whale to its present form? Large "schools" of whales are still to be seen in the Arctic regions, and still redden the waters, year in, year out, with their blood, shed in a futile conflict with an overpowering enemy. But soon all this will belong to the realm of legend and tradition, and in future times man will stand in wonder before the scanty specimens to be found in the museums, preserved therein thanks to the foresight of a few.

It is shocking and distressing to realise the number of instances of the same kind of slaughter among horned animals. A few decades ago millions of American bisons (*Bison biron*) roamed over their wide prairies.

To-day these millions have gone the same way as the vanished Indian tribes that once lived side by side with them. It was feared that the buffaloes, as they are called in America, would damage the Pacific Railway, as Heck has pointed out in his book *Das Tierreich*. So buffaloes in their myriads had to make way for the steam-engine. The number of buffalo-skins dealt in by traders during

A SKELETON OF A RHINOCEROS, PROBABLY KILLED BY THE "FUNDIS" —NATIVES LICENSED TO CARRY FIREARMS AND HUNT BIG GAME

the last seventy years of the preceding century is almost beyond belief. Only a few hundreds are now in existence!

Soon a long list of other noble specimens of the American fauna will follow them. President Roosevelt himself is not blind to this prospect, and he favours everything which seems calculated to stave off this inevitable calamity. Through the introduction of barbed-wire

fencing many kinds of deer, for instance, have been exterminated in America. In Australia the kangaroos fall victims to the snares of the farmers. In Asia the annihilation of many kinds of wild beasts proceeds apace. The Indian rhinoceros, wild goats, wild horses, and wild sheep of the Asiatic hill countries of the interior are being recklessly exterminated. In Germany the aurochs, which figures so largely in our old legends, has long disappeared. It is scarcely possible now to form a clear idea of this splendid animal, so scanty is the material at hand for the purpose. The bison (*Bison bonassus*), its powerful cousin, only exists now in small herds, which are degenerating through breeding-in. The steinbock has been exterminated in the Alps, only a small number surviving in the valleys of the Aosta, and that under royal protection. The elk (*Alces alces*) disappeared from Germany long ago, and is now to be found only in small numbers under royal protection, like the bison, and like the beaver also in the Elbe district.

But the way in which wild life is annihilated nowadays in South Africa is simply terrible. A short time ago there were countless herds of splendid animals in Cape Colony. The Boers, trekking into the interior, had to fight their way step by step by slaughtering the animals they found grazing in their path.

Civilisation brought about only the checking of the growth of the native races, not their extermination like the American Indians. And the natives applied themselves to the work of destroying the wild life with the help of the arms brought in by the Europeans, and on

C. G. Schillings, phot.

SOME REMARKABLE SPECIMENS OF ELEPHANT-TUSKS AND RHINOCEROS-HORNS. IMMENSE QUANTITIES USED TO FIND THEIR WAY TO THE GOVERNMENT STATIONS

behalf of the white traders who equipped them for the purpose.

Thus disappeared the white-tailed gnu (*Connochætes gnu*), the bontebok (*Damaliscus pygargus*), the blesbok (*Damaliscus albifrons*), the true quagga (*Equus quagga*), the mountain zebra (*Equus zebra*), the splendid roan antelope (*Hippotragus leucophæus*), the Cape buffalo (*Bubalus caffer*), the elephant, the so-called white rhinoceros (*Rhinoceros simus*), the black rhinoceros (*R. bicornis*), the giraffe, the hippopotamus, and the ostrich —except for a few preserved individuals in the case of the first three; completely in the case of all the others. The number of animals still to be found there in the last third of the previous century was immense, but it is hard to realise the dense crowds of them that must have existed there a hundred years before that. And side by side with them from earliest times lived the coloured races. Like the American Indians, they levied their toll upon the animal kingdom without impairing it. It was left to the reckless and purposeless slaughtering indulged in by civilised man to achieve the seemingly impossible, and turn this thickly inhabited region into a desert.

To my mind there is a groundwork of truth underlying the myth of a Paradise, in which the animal world lived all together in harmony. Trustworthy observers have told us that in the Arctic regions the sea-lions—creatures of exceptional intelligence—and seals and reindeer and birds do not budge an inch on the approach of men, and show no trace of fear. This must have

been true of the entire world before the beginning of the supremacy of *Homo sapiens.*

What was found, indeed, in those polar regions uninhabited by man, I myself have often observed in that land of blinding sunshine which goes by the name of the Dark Continent. Enormous herds of harmless animals, as well as beasts of prey, forming one general community, are to be found together at certain times in desert places.

Where the natives do not hunt, wild animals are to be found on almost as friendly terms with them as singing birds and other such pets are with us, or as storks, swans, squirrels, and all the other naturally wild animals that have come under our protection, and have come to trust us.

Thus it is that in the wild regions of Equatorial Africa we find the animal kingdom flourishing almost to the same extent as was once the case in the south.

I say "almost," because it must be allowed that the herds of elephants in the interior have been thinned and the herds of buffaloes decimated by the rinderpest introduced by Europeans into Africa. At certain times of the year, however, for weeks and months at a time, I have seen such numbers and such a variety of animals as simply cannot be imagined, and I am able thus to form a notion of what things must have been like in the south.

I can give no adequate notion of the extraordinary profusion of wild life there is still in Equatorial Africa, and I would fain raise my voice in order to induce

C. G. Schillings, phot. A *MEMENTO MORI* OF THE VELT. AN ELEPHANT SKULL AND BONES

all those who have influence in the matter to save and maintain what can still be saved.

By this I mean, not merely the maintenance so far as is possible of the present state of things, but also the getting together of an immediate and comprehensive collection of specimens of all the different species for our museums. *To-day there is still time in the case of many species. In a few years it will be too late.*

I could bring forward the names of many men, famous in the world of geography and natural history, such as those of von Richthofen, Schweinfurth, Ludwig Heck, Paul Matschie, Wilhelm Bölsche, and Professor Lampert, who agree with me on this point.

It is a regrettable fact that we Germans know very little of the animal life of our colonial possessions.

By means of comprehensive collections of large series of skins, skulls, skeletons, etc., I myself have done something towards providing our museums with zoological specimens, many of which were hitherto unfamiliar. As I had to do this out of my private means, and without any help from the State, this meant very considerable personal sacrifices.

I maintained rigorously the principle of keeping my caravan (in which I had never less than 130 men) upon a vegetable diet for the most part, allowing them meat only to a very small extent, and then merely as an adjunct to their meals. In the famine year of 1899 my provisions cost me more than 20,000 marks, which might have been brought down to a trifling sum had I taken heavier toll of the game, as the natives were

always ready to barter vegetables for animals I had killed.

In addition to pecuniary sacrifices, I had, moreover, to face the envy and disfavour with which all private travellers are apt to be regarded in our German colonies.

Where an unexplored region full of wild life is in question, the interests of the explorer and collector should always be put before those of the sportsman. It is infinitely easier to slaughter whole hosts of big game with the help of Askaris than it is to prepare a single giraffe-skin and convey it in safety to Europe. This is a laborious task, needing much personal supervision and involving several days' work—work that at times goes on all night. The lack of careful handling and expert knowledge in the preparation of skins is the reason why serviceable zoological specimens hardly ever reach us in Europe.

The recognition I have been accorded by the authorities in the field of zoology enables me to treat the slanderous reports of some of our colonial traders with the contempt they deserve.

It has been a great satisfaction to me to find "my animals" restored by expert taxidermists in German museums—from the smallest dwarf antelope to the giraffe, from the rock badger to the rhinoceros and the elephant. These stuffed specimens are the only possible substitute for the reality for those who can never see with their own eyes the life and growth of the animal kingdom in foreign climes.

The Tragedy of Civilisation

Already a great number of the inmates of our zoological museums have been struck out of the book of living things, though they existed in millions in the time of our fathers. The work of destruction entered upon by civilised man goes on with terrible swiftness.

May this cry of warning be of some use!

EGYPTIAN GEESE ON THE WING

II

Instantaneous Photographs of Wild Life

INSTANTANEOUS photographs of living wild animals! An every-day matter, surely! And yet I venture to maintain that until the recent successful photographing of American wild life,[1] and a few similar photographs taken subsequently by Englishmen, all the ostensible pictures of this kind we have seen have been of animals not in absolute freedom and not in their natural surroundings.

Photographs taken in zoological gardens and closed preserves, or photographs of animals in captivity, surrounded by stage properties specially arranged for the purpose—photographs which, in addition, have been more or less retouched afterwards– pass current, and are often taken for representations of actual wild life. Anschütz rendered great services in Germany in the field of animal photography, and produced some beautiful pictures Zoological works continued, however, to be illustrated

[1] *Camera Shots at Big Game*, by A. G. Wallihan, contains a number of very successful photographs of different kinds of deer. The photographs of pumas and bears are interesting, too; but the pumas had been hunted with dogs, and the bears had been caught by means of traps.

C. G. Schillings, phot. ONE OF MY AMBUSH

chiefly by drawings which, for good reasons, failed in many respects to interpret the character of the animal world correctly. For not only had the artists no opportunity of studying the animals from the life, but they were frequently dependent upon ill-mounted museum specimens as models from which to produce life-like sketches. A few artists were in the position to make studies from life and on the spot, and to these we owe some valuable pictures; often, however, the animal pictures presented to us were stiff and wooden, and calculated to give quite wrong impressions.

Incredible things were perpetrated in this branch of art. Zoological works and works of travel were illustrated with "cuts" which were simply ridiculous to any one with any special knowledge of the subject. We find, indeed, even in publications of to-day, *not merely photographs of single stuffed animals, but photographs of whole groups of them, passed off as studies of wild beasts taken in their wild state;* and certain excellent photographs by Anschütz of caged lions are constantly to be met with served up in all manner of forms—various kinds of vegetation and other accessories being introduced at different times! This kind of thing can only be described as a fraud upon the reader, and only too often it is in keeping with the accompanying text, in which people, who in their own country are scarcely capable of killing a hare, describe the most wonderful adventures they experienced, and lay down the law with the greatest assurance upon the most difficult zoological questions.

An agreeable contrast to such publications is offered by quite a number of volumes by English writers, the illustrations to which are remarkable both for their artistic merit and for their accuracy from a naturalist's point of view. I may instance especially Lord Delamere's photographs of elephants, giraffes, and zebras in *The Great and Small Game of Africa*.

ORGEICH, MY TAXIDERMIST, SETTING OUR MEN—"FUNDI"—TO WORK AT THE PREPARATION OF SOME SKINS

President Roosevelt remarks very rightly, in his preface to Wallihan's *Camera Shots at Big Game*, that it would be extremely ridiculous if people who could not themselves face the hardships and fatigue of shooting expeditions, or who lacked the training essential, were to decorate their rooms with rare trophies not secured by themselves. Many people, however, would seem not to realise this.

C. G. Schillings, phot.

—THE FLASHLIGHT BLAZED OUT! STARTLED, SHE SWERVED ROUND WITH WONDERFUL AGILITY AND MADE OFF IN THE MANNER THIS SECOND PHOTOGRAPH DEPICTS.

C. G. Schillings, phot.

THREE LIONS HAD BEEN STEALING UPON THE OX—THE LIONESS SEEN IN THE PHOTOGRAPH LEADING THE ATTACK—
SHE WAS JUST ABOUT TO SPRING UPON HER PREY WHEN—

Hunting by proxy—in the persons of guides or Askaris—unfortunately plays too big a *rôle* in East Africa. The "sportsman" then describes his own adventures, relying on information supplied by the natives and adducing the trophies in his possession as documentary evidence.

We are still very much in the dark over many biological questions regarding our own wild animals, and we lack really good photographs of most of the animals of our country in their natural surroundings. Here is a wide field for artistic endeavour, and it would be a matter for great satisfaction if it were cultivated as soon as possible. The same is true still more of wild beasts in foreign lands. Even the slightest item of original observation is really valuable. Photographs taken in complete freedom, however, are biological documents of the highest importance in the opinion of my friends Professor Matschie and Dr. Ludwig Heck, and in that of Wilhelm Bölsche, who has referred to my pictures in most gratifying terms in his work *Weltblick*. I am tempted here (if only to encourage other sportsmen to combine photography with shooting in the same way) to quote the words in which yet another zoological authority, Professor Lambert, of Stuttgart, has alluded to my work in this field. "These pictures," he declares, "are of the greatest importance. In them, the wild animals of Africa will live on long after they have been sacrificed to the needs of advancing civilisation."

It was in 1896 that I had my first opportunity of getting to know the velt of the interior of Africa; and it was

then the great desire arose in me in some manner or other to seize on all these wonderful phenomena from the animal world, and to make them common property and accessible to all. This desire grew in me side by side with the conviction that there was here a wide field for valuable work to be accomplished without delay; for the East African fauna was rapidly disappearing before the continued

MY PHOTOGRAPHIC EQUIPMENT

advance of civilisation. But good advice was hard to get. The faculty of depicting the animal world with the artist's pencil was denied me; I possessed, only in a small measure, the ability to describe in tolerable clearness this beautiful, virgin, primeval world. Since the days when the unfortunate Richard Böhm was seized with a malignant fever on the far Upemba Lake in 1884, and

since those of Kuhnert, who was for a short time at Kilimanjaro, no artist has had an opportunity of familiarising himself with the animal world of West Africa. The artist or painter, however, who attempts to put before the eyes of the public the wonders of the animal kingdom of inmost Africa would undoubtedly be received with incredulity. How could those accustomed to the zoological conditions of over-populated Europe believe such an animal kingdom possible?

The only feasible and desirable records seemed to be trustworthy photographs, which could not deceive. Here were, however, many difficulties to be overcome with but limited means. In the mutual exchange of my ideas with Ludwig Heck, who was never tired of strengthening me in my resolutions, we always came back to this point. We always said to ourselves that a way must be found to render the highly developed technique of photography serviceable for the object I had in view—for work in the wilderness. What a seductive aim—to put on a photographic plate those wild herds in such marvellously picturesque assemblage—unique and rare inhabitants of the jungle, little known, if known at all!

The only way to achieve this object was to work hard for long and weary years. We always seemed to be encountering new difficulties. Occasionally our flashlight experiments failed; the explosive compound smashed our apparatus, so much so that the iron parts of it, which were nearly a third of an inch thick, were torn and bent. Some hindrance always seemed to be cropping up and thwarting our plans. So we studied

and planned, and after a vast amount of preparatory

THE EFFECT OF THE FLASHLIGHT

labour I started out a second time, extensively equipped, for Equatorial Africa.

I spent a whole year there acquiring experience, and failures and trials taught me daily something new. Again, on my return to Europe, lengthy experiments were made. This time Kommerzienrat Goerz, proprietor of the well-known optician's establishment in Friedenau, placed at our disposal one of his laboratories to further this scientific work. Owing to his kindness we found it possible to devise more suitable apparatus for photographing by night, and thus I was enabled to reproduce on the plate the most secret habits of animal life.

After this I started afresh for Africa with an extensive equipment. This time I was accompanied by my friend Dr. Künster, and set out from Tanga for the interior with a party of 130 people. Things proved very different in practice from what we had worked out in theory. Hard days of disillusionment, aggravated by the difficulties of the climate, fell to our lot. After three months' suffering from acute heart disease and from malaria, I was obliged to throw up the whole expedition and to find my way home. At that time the doctors thought it more than questionable whether I should ever reach home alive, so much had the malaria, in conjunction with the heart trouble, pulled me down. But these troubles also were overcome: my tough constitution withstood all assaults.

Afterwards I recommenced my studies, turning my experiences to account, and for the fourth time, after experiencing many disappointments, I started out to try to achieve, at least partially, the purpose on which I had set my heart. In a tropical country that is constantly

being tabooed for private individuals—in a country where the climate is so unfavourable to the European—there are many hindrances and difficulties to overcome. A naturalist travelling on his own account encounters almost insuperable obstacles.

A passport which would have ensured the holder thereof respectful treatment in any other part of the world was of no avail here on German territory to save us from long hours of Customs vexations in the hot rays of a burning sun. I experienced later in the year 1899 a still greater annoyance.

With infinite trouble I had secretly made my plans to explore on English territory the distant and virgin land Korromoeyo, lying round about Rudolf Lake. I had obtained the permission from the English Government by means of the kind intercession of influential friends; and I had provided the necessary credentials. Then suddenly, just as I was about to start from Kilimanjaro, the permission, after all my long preparations, was withheld.

According to rumour, some influential English gentlemen had been refused permission to travel in German East Africa. What wonder, then, that like to like should be repaid! All my plans were nipped in the bud.

But, in spite of all, I would not have missed all these hardships and difficulties!—not even the hours, the days, and the weeks which Dr. Künster—who had accompanied me on my third expedition as friend and physician—and I passed during my illness on the borders of the

silent Rufu River. Were it not for his zealous nursing, and that of the staff-physician, Dr. Groothufen, as well as of my friend Captain Merker, I should have died.

But I look upon those days of suffering and strenuous work, in that far-off wilderness as the right inauguration for my project.

OUR FRIENDS THE STORKS WINTERING IN MASAI-NYIKA

III

The Minds of Animals

WHAT Brehm has put on record so admirably in telling of his sojourn in the Sudan, concerning the way in which his feathered and four-footed friends there displayed their trust in him and feeling of comradeship with him in times of illness or distress, I also am able to give as my experience during my sojourn in Equatorial Africa.

Any one who makes his way through that unexplored and unfamiliar region—not bent solely on making money, but lingering here and there and giving himself time for the purpose—will find so much to win his sympathies in the intelligence of the animals, so much to fascinate him in the study of their life, that he will not often catch himself yearning for the civilised existence of home. A thousand questions call for answering, a thousand problems await solution, but the observer who would cope with them must hasten, for many members of the African fauna are doomed to speedy destruction

at the hands of the invader. And he must be able to enter into the soul and heart of the individual animal he would study, coming to the task sympathetically and with a desire to understand and appreciate.

No one wonders nowadays at the way in which the Indian elephant, born in the wilderness and captured in maturity, enters in a few weeks into friendly, if dependent, relations with man, and learns to be an excellent instrument in his hands.

I am indebted to the Prince of Pless for the information that the "mahouts" or keepers of the Indian elephants, understand about a hundred distinct utterances—words, practically—used by the elephants, and that they, in turn, may be said to follow every word used by the "mahouts." The weaker brain gives way naturally to the stronger, with animals as with ourselves. But we find a number of species among them which come quickly into entirely unselfish relationship with men.

For nearly twenty years no one had succeeded in bringing a young African rhinoceros alive to Europe.

It seemed to me that the cause of so many of the young animals pining away when brought home without a mother must lie in the neglect of what I may call a spiritual need. In all cases the mothers had been killed. In the case of my young rhinoceros, I replaced the mother by a she-goat. After a few days the young "rhino" had made such friends with her, without being suckled by her, that he followed her about everywhere, and even now, in captivity, is not to be parted from her and the kid she has since produced.

The massive young rhinoceros consorting with these two East African goats is a curious sight! The public—that is to say, the public which frequents our Zoological Gardens on a Sunday—does not know what to make of them. "Look, children," you may hear pater-

"FATIMA," MY YOUNG RHINOCEROS, AND HER MESSMATE, THE GOAT. THIS GOAT STILL KEEPS HER COMPANY IN THE BERLIN ZOOLOGICAL GARDENS

familias remark; "look at the rhinoceros and the poor little goats. Isn't it sad? He will eat them up."

It does not enter the good man's head that an unselfish feeling of friendship, a crying need of companionship, can find a place in the heart of this uncouth denizen of the wilderness. You will look in vain for any understanding of the great thick-skinned exile in the minds of the thousands of human visitors who imagine themselve , quite wrongly, so infinitely his superior.

But this dictum of our paterfamilias is often surpassed by that of the visitor who, seeing above the cage the words "East African Rhinoceros," jumps at once to the conclusion that it is a case of two small rhinoceroses with their old mother! There is no reason for this observer to suppose that a young rhinoceros does not look like a goat!

Whoever may doubt the truth of this should convince himself by questioning the keeper of the rhinoceros in the Zoological Gardens in Berlin.

You will generally gather from books that the rhinoceros is a dull and unintelligent animal. Dull and unintelligent he is undoubtedly from a merely human standpoint; but he should, of course, be regarded in quite another light, and would then be found to be gifted with a specially directed intelligence of a very highly developed kind. These animals cannot, of course, make deductions and draw conclusions from their past experiences like men, who inherit these intellectual treasures from remote ages, transmitted in an enriched form from one generation to another by means of the gift of speech.

But, on the other hand, if a century ago every rhinoceros had been endowed merely with the intelligence of an average civilised man, and thus endowed had been the prey of reckless unsparing sportsmen, not a single one of them would now be alive. In just the same way must it be accounted for something that elephants have mastered so important a piece of knowledge during the last few decades as how to save themselves from the deadly fire of modern rifles. It is a great mistake to

attempt to judge animals' brains by our own. We have to remember that many animals have senses which we are without, and that other senses which we have in common are much more highly developed in them than in ourselves.

I can only say that this young rhinoceros attached himself to me in a very few weeks, and got to dis-

MY MARABOUS MADE GREAT FRIENDS WITH OUR COOK

tinguish quite clearly between the large number of men who came into touch with him, bearing himself quite differently with different individuals, just as he still singles me out from all the thousands who approach him now in the Gardens.

If a zoologist were to ask me to explain the incredible topographical instinct of rhinoceroses, I should reply that these animals are enabled, out of the treasure of experience

and knowledge stored up in their brains, to recognise in detail the topography of the velt, and to find their way with ease about the surrounding country.

Herein lies the explanation of the fact that I was able very frequently to take up a rhinoceros track which led me in the driest season in a direct easterly course after four hours to a dried-up ditch which led due south to a small pool which still held water. I have noticed this kind of thing hundreds of times in the vicinity of the velt, where only intermittent showers of rain fill the pools temporarily with water. How helplessly and hopelessly lost does the educated man feel himself to be in that wilderness! In what a masterly and wonderful manner does the rhinoceros find his way!

The friendship between my rhinoceros and the two goats was founded on an absolutely unselfish basis. It arose from purely spiritual needs. Of this I am positive.

Many other animals in this distant black country were to us a real source of enjoyment and consolation. Take, for example, my young elephant, who loved me with child-like simplicity, till I unfortunately lost him for want of a foster-mother: also my tame baboon, who used to be almost mad with joy when he saw me, a mere speck on the horizon, returning to the camp from one of my excursions—his sight is infinitely keener than ours. From earliest times we have heard tell of an unusually wise bird that our ancestors nicknamed the "philosopher." This is the marabou-stork, specimens of which I have come across whose wisdom and fondness for human companionship would scarcely be credited.

Storks and marabouts, which perhaps have lived a man's lifetime or more in the distant velt, have attached themselves to me in the friendliest manner, albeit caught after many difficulties and by strategy. A specimen, well on in years, which I brought with me to Berlin still singles

MY TAME BIRDS USED TO WANDER IN AND OUT ALL OVER THE CAMP

me out from all the other visitors by peculiar marks of affection!

Of course it means many a hard struggle, and it is not easy to win the friendship of such old and peculiarly obstinate birds. For weeks and months one must feed them by force with pieces of meat before they make up their minds to feed themselves. One must tend them oneself, wait on them constantly, and occupy oneself with their needs. Then, one day, quite suddenly, all mistrust

and fear are overcome, and one is repaid a thousandfold for all one's trouble by making a genuine friend of the bird.

It must be remembered that I am not speaking of young birds reared by men from infancy, but of birds caught perhaps at the age of thirty or forty years, or even older. For marabous attain a very great age, like large ravens or vultures, one of which lived in captivity under favourable conditions for a hundred years. My marabous moved about in the camp free and unrestrained. They built their nests, and did not try to fly away. They greeted me on my return with joyful cacklings ; they planted themselves close to my tent as sentinels, and caressed me with their powerful and dangerous bills. For a long time my black cook had taken on the duty of feeding them, and their affection for me was not at all the result of my giving them dainties, but of my just and intelligent conception of their habits.

I could write a great deal more about the sagacious deeds of these birds. I must, however, restrict myself, and will only mention that Dr. Ludwig Heck, to whom thousands of wild animals were attached, could not help remarking, on the steamer near Naples, the affection my marabous showed me.

" There are more things in heaven and earth than are dreamt of in our philosophy," Dr. Heck wrote at that time in an essay on his own observations. Hamlet's phrase often recurs to me, also, in this connection. I am convinced by what I have myself seen of animals that their minds are highly developed, though we have been unable to discover how they work.

Is it, then, so difficult to watch with sympathetic eyes the tragedy that is to-day being unfolded? I speak of the annihilation of a powerful and mighty race that has done hurt to no man—of the African elephant, an animal that, whenever and wherever tamed, evinces for man the most lively sympathy.

Here, as in many other realms of natural science, there are unfortunately great difficulties that can only be over-

THE MARABOUS AND THE VULTURES GOT ON TOGETHER VERY WELL

come with much labour. When we become fully alive to the importance of the matter, it may be too late to subject many of the highly developed kinds of animals to careful study; for they may have been exterminated on our planet and struck off the roll of life. I am alluding now to the infinite difficulty that every man will encounter when he undertakes the study of foreign races and their

peculiar habits, if he wishes thoroughly to investigate in a truly critical spirit their psychological emotions. Only he who has for many, many years lived in the midst of a foreign people and has given himself up to his task with heartfelt zeal, and who possesses an innate aptitude for the subject, can undertake such a work.

It appears that certain kinds of animals remain, as a whole, unchanged for long periods of time. It also seems to me that the mind acts according to certain inherited tendencies; this is called instinct. When carefully examined, however, it will be found that these so-called instincts resolve themselves often into more or less deliberate actions, although it may be that these actions are committed within very narrow limits and in accordance with sharply defined rules. I call as witnesses those thousands and thousands of dog-owners and sportsmen who are convinced of the fact that their own animals, which have been with them in many a tight corner, understand them and love them. This may seem to others, in many cases, hard to understand, and appear at times exaggerated. These lack the long and sympathetic study of the finest differences of the animal minds in question—

There are more things in heaven and earth . . .

FATA MORGANA: A STRANGE EFFECT AS OF A LONG LINE OF BLUISH WATER-SPOUTS ON THE HORIZON

IV

Masai-Nyika

WITH what an ever-changing beauty did the Masai-Nyika break upon our view! The mountain ranges as viewed from the velt seemed almost near enough to be touched, in spite of their distance and vastness. The clear, dustless atmosphere deceived our eyesight.

In the old days this never-ending velt, with its inhabitants, seemed to the newcomer to be an insoluble conundrum. But to-day, after millions and millions of footsteps have been imprinted on velt and on mountain, in swamp and in forest, the wanderer has mastered its speech, thus finding new and rich pleasures in the illimitable solitude. The velt does not indeed betray its secrets wholesale. Those who would unravel them must be prepared to search and study. They will succeed only by the sweat of their brow; and they must, above all, be fearless of consequences. Thirst, hunger, and the dread of malaria have to be faced in the long run, whether willingly or not.

C. G. Schillings, phot.

SCENE ON THE RUFU RIVER

So it is not presumption when the sportsman or the explorer, who has done all this, says to himself that he has acquired a certain right to interpret what he has seen and struggled with. No one could possibly do this without taking upon himself endless labour and trouble.

The velt is a book difficult to decipher; actually we find the various tracks and trails of the animal world

I LOOK OUT OVER NYIKA

recorded as though with a pencil in the loose, moving sand of the velt, in clammy clay, and in swamps: a book which is always full of charm, and in the study of which not a single weary hour would be spent.

And there, where the giants of the animal kingdom have left imprints of their tremendous strength on trees and brushwood, in swamps and marshes, we find, as it were, punctuation-marks to its pages.

Right and left on our path, trees of vast strength are to be seen broken like bits of straw, showing where a herd of elephants have made their way. Large holes in the ground are come upon, which have been made by the elephants in the wet season, and which remain visible for a year or more. There is not a little danger of falling into these, because of the thick grass. Wherever the explorer sets his foot he always finds something new, something full of meaning.

The rhinoceros, too, leaves his mark. For many miles long tracks, which cross and recross, are found leading to watering-places. These tracks are especially noticeable in the vicinity of the pools and streams, and gradually get lost in the distance. And like the elephant, the rhinoceros levies toll upon the shrubs and thorn-bushes.

The East African wilderness varies in its formation. It is sometimes flat, sometimes undulating, or sharply broken by more or less high hills, steep rocks, mounds, and inclines. In the volcanic region of the great mountain Kilimanjaro a whole range of mountains rises from the plateau. The highest point of Kilimanjaro, the Kibo peak, reaches over 6,000 metres. This peak is perpetually covered with snow and ice, whilst Mawenzi, which comes next to it in height, is only covered intermittently. Its summit, which rises sharply in the air, is connected with Kibo by a ridge 5,000 metres high. Less than sixty years ago, when the missionary Rebmann brought the first news of this glacier-world under the equatorial sun, the learned declared it to be a product of his imagination. Ice and

C. G. Schillings, phot.

DRI K NG—LAKES IN THE ROCKY DISTRICTS OF THE VELI, RESORTED TO BY ELEPHANTS AND RHINOCEROSES

snow at the Equator! Nowadays we are more exactly informed about the "genesis" of these great volcanoes Professor Hans Meyer has done much by his wonderful explorations to open up the matter. It is chiefly from his works that we derive our information as to the geological conditions of this district.

The formation of the district is the outcome of volcanic

A TYPICAL BIT OF SUCCULENT VELT VEGETATION IN THE RAINY SEASON. [illegible] IN THE FOREGROUND

causes, and my friend Merker justly observes that this is peculiarly remarkable on Kilimanjaro, Meru, and Ol Doinyo l'Eng ai. In the neighbourhood of the last, which is an active volcano, hill after hill is found between the steep descent of the Mutiek Plateau and the Gilei and Timbati Mountains, each of which has the remains of a crater. The whole scenery is of the kind we are familiar with in photographs of the moon.

Some two days' journey distant from Kilimanjaro rises the neighbouring sinister-looking Mount Meru, nearly 5,000 metres high, and still further away, in the direction of the Victoria Nyanza, several separate hills and volcanoes are ranged. In the midst of this world of mountains there extends before us in the bright sunshine an immeasurable plateau, the "High Velts," at an elevation of some thousands of feet above the level of the sea. According to the season—whether in the Masika, the season of heavy rain, or the drought—Nyika is to be seen garbed in a green shimmer of young grass and adorned for miles by separate rain-water streams like silver threads, or looking brown and grim under a desert of decayed vegetation. In the latter case our eyes find resting-places here and there in the valleys in which acacias, the ever-green Terminalia, or other flowers and shrubs, find moist ground whereby to preserve their freshness. It would be difficult for any but a botanist to describe the character of this plant world. Professor Volkens has done so, in his work on Kilimanjaro, in a masterly manner.

Later we come across vast open spaces flooded in rainy seasons, but in the time of drought covered with a white, salty incrustation which only permits of the sparsest vegetable life, with now and again patches of green or sun-scorched grass. We may find acacia-bushes, which stretch for immeasurable distances, or thorn-trees that look like fruit-trees, and indeed cause the name of "fruit gardens" to be given to the velt where they grow. The acacia sometimes has the appearance of a tree, sometimes, especially when young, of a bush. Other

C. G. Schillings, phot.

KILIMANJARO, WITH THE KAISER WILHELM PEAK. PHOTOGRAPHED AT A DISTANCE OF ABOUT 20 MILES

bushes and shrubs of various kinds spring up amidst the grass which, after the rainy season, grows as high as a man; and there is often an undergrowth of thorny plants of all kinds.

Many kinds of euphorbias give the whole a tropical aspect.

But shrubs and thorn-bushes of rare kinds—grey-green

A BIT OF THE SUCCULENT VELT WITH *PYRENACANTHA MALVIFOLIA* —GREAT HEAVY BOULDERS UPON WHICH WILD GROWTHS SPRING UP IN THE RAINY SEASON

clumps many feet across, seemingly lying loose on the ground—go to form another style of velt vegetation. During the rainy season they shoot out prickles and creepers, whilst during the drought they appear absolutely dead.

A certain group of plants called succulents, peculiarly adapted to the climate of the velt, which live through

several years of drought, is to be found in great abundance.

In the Nyika one constantly comes across large white-ant heaps, several feet high and of considerable width. During the night the tiny builders are untiringly active in raising and building their fortresses, which are very strongly put together. At the approach of the rainy season the ants, which by this time are winged, arise from the ground in swarms to set out on their long wedding journey in the air to lay the foundations of new colonies elsewhere. Most of them know perfectly how to use their little white pinions, although it is the first and only time in their lives that they rise from the dark depths of the ground in the damp evening atmosphere. Some, however, flutter to the ground in a piteous plight, with their wings broken. They will never undertake the striven-for journey. But what does it matter, since there are myriads left to fulfil their vocation?

Here and there the steppes are adorned with the well-known monkey-bread tree (*Adansonia digitate*). Covered with a shining bright grey bark, this tree often attains a circumference of many yards, and, in spite of its grotesqueness, charms us with its primeval appearance. The traveller soon learns to value it, for often rich stores of water lie hidden in the hollow trunk—stores that have been supplied by the rainy season—which may be the only water to be found in the district for several days' journey.

Sometimes one comes across deep ravines and gullies that cut through the landscape. For months and years

they remain hard and dry, when suddenly a mighty fall of rain transforms them into rushing torrents, which the caravan will most probably find an insuperable obstacle to its progress.

When these desert regions lie in bright and beautiful sunlight, and the eye can see a vast stretch of country,

A BIT OF THE SO-CALLED THORNY "FRUIT GARDEN" VELT

the traveller is seized with a great sense of freedom, and a longing to explore and investigate.

Even the experienced eye is easily deceived with regard to distance in this riot of dazzling light. Thus I found that, where Oskar Baumann pointed out the Kiniarok Lake in the Nyika, there was only barren desert, and I had to retrace my steps hastily, in order to save my people and myself from perishing of thirst. . . . But

at the time of the Masika the country round about would be covered with water for miles.

It is not difficult to travel in the Masai-Nyika during the rainy season when water is abundant, apart from the simple difficulty of finding one's way between the thorns and the bushes and extricating oneself from the long rank grass, often as high as a man. It is very different

A WHITE-ANT HILL ON THE VELT NEAR THE COAST

during the drought. Unless one has reliable knowledge beforehand, one is never sure where the next drinking-place will be found. Even if information is obtained with regard to some spot where water was found only a short time before, it is not to be relied on, for in the fiery breath of the sun and the wind of the plains it will evaporate in a few days! We have often been obliged to travel back more than twenty miles to find water, and

this with bearers who have carried burdens weighing 60 lb. on their heads since the early morning; or we have been obliged to make a so-called "Telekesa" march, following a very old and practical method. After midday the caravan decamps and journeys towards its destination until the evening. At the approach of darkness the camp is pitched at a spot where there is no water. In

A THORN-BUSH ON THE VELT

all probability the day has been hot, the burden has lain heavily on our heads, and a sudden whirlwind has made the sand of the plain dance and fly in all directions; but every man squats down by his burden, so as to be ready to start again in the early morning, or even by moonlight if the way lies clear, and so as to reach the longed-for drinking-place as quickly as possible. Very often it is not until the evening that this can be done.

Under ordinary conditions carriers will never throw up the sponge; their traditions forbid them to do this. I have often known them to fall beneath a heavy load, but I have scarcely ever known them abandon it to go and seek for water. On the contrary, it is the custom (*dasturi*) for those who arrive first at the camp to carry the replenished calabash back to revive their friends (*rafiki*) left behind, it may be over an hour's journey away. In the generous distribution of food among themselves the carriers are most brotherly and helpful to one another. And under whatever conditions they find themselves, wet or dry, the blacks know better than any how to find the best spots on the velt, or to discover hidden sources of water, to spy out the rare berry-bearing shrubs, to find wood for fuel where apparently no wood is to be seen, to light their camp-fires quickly, and to contrive sheltered nooks for themselves out of their own cloths and wraps. They know, too, how to keep off vermin by certain herbs, whose strong smell our European nerves can hardly stand.

Alfred Brehm once said of the Tundra, the Asiatic counterpart of Masai-Nyika, after he had experienced many hardships there: "I shall never go back to the Tundra!" I also have a great dread of the Nyika. No northerner will ever live there for long.

Yet those who have learnt to know it are apt to hear it calling to them again and again!

THE LITTLE ARAB DHOWS WHICH BROUGHT US TO ZANZIBAR

V

To Kilimanjaro with Prince Löwenstein

THE mail-steamer *Bürgermeister* brought us to Tanga in the first days of February. For the fourth time I set foot upon the East Coast of Africa; for the third time I set out from it for Germany's highest mountain, the gigantic ice-covered and snow-clad volcano, Kilimanjaro.

Prince Johannes Löwenstein-Rosenberg and I had taken seven mules on board at Naples in the expectation that these wiry beasts, accustomed in Southern Italy to every kind of hardship, would be admirably fitted for our riding. The transport was carried out all right, but the mules unfortunately got the Acarus mange on the way. A dog—a "Great Dane"—which had been despatched from Hamburg to Dar-es-Salaam for scientific purposes, and which had been inoculated experimentally against infection by the tsetse-fly, had given them the disease. Being familiar with the treatment of this kind of mange, I took the dog in hand when on board; but, in spite of all

my efforts, the mules became infected after they had lost their winter coats of long hair, with very damaging effects upon their skin. So for several weeks we had the task of subjecting the rather obstinate and troublesome beasts twice daily to a thorough good wash—a process finally crowned by success.

Thanks to my previous experiences and to our relations

ONCE MORE I SAW CAPE GUARDAFUI BEFORE ME, OUTSTRETCHED LIKE A RESTING LION. IT WAS THE EIGHTH TIME I HAD VOYAGED THIS WAY

with the officials of the German East African Company, our caravan of 170 bearers, Askaris and others, under the supervision of my tried and trusty headman, Mniampara Maftar, was organised in a few days, and the railway took us to Korogwe, at that time its terminus.

This saved us a wearisome two-days' march along the coast. We made our way over Mombo, where the experimental cotton-plantations had unfortunately been

C. G. Schillings, phot.

MY ASKARIS BEING PUT THROUGH THEIR EXERCISES AT TANGA BY A GERMAN NON-COMMISSIONED OFFICER

destroyed by the heavy rains, and where we were genially entertained by Herr Veith, the very friendly and helpful manager of the plantations; then across Masinde, leaving the caravan road upon the right; and finally across Mkomasi, now greatly swollen, and along the Rufu River towards our provisional destination, Kilimanjaro.

Rain had been falling in unusual quantities, and we found the vegetable world in great luxuriance. It was my seventh journey through this district, but it was only the second time that I had found the vegetation in this state; I had generally known it in the dry season. Far and wide the land was now covered with grass; the remarkable succulent plants were in full life, and the grotesque monkey-bread trees adorned with leaves. Butterflies and hordes of other insects were to be seen in every direction.

It would be hard for a newcomer to realise that all this organic life must disappear in a very short time, and that the velt would spread out round us a barren, withered plain.

As the result of the rains, the health of the Europeans was, as usual, very bad. All the resident officials of the German East African Company had been obliged, turn by turn, to go to the hospital. The temperature reached 32° Celsius in the shade, never falling below 21° at night, when the south-easterly wind blew persistently.

We purchased large stores of provisions, sent about eighty donkey-loads of maize on ahead, and continued our march for some days up-stream. The animal world,

finding food and drink everywhere now, was scattered over the whole region.

Prince Löwenstein brought down some Grant's gazelles (*Gazella granti*), but our chief interest was centred in the immense number of storks (*Ciconia alba*), which were preparing to set forth on their flight to Europe,

PRINCE JOHANNES LÖWENSTEIN (TO THE RIGHT) AND THE AUTHOR

and were now lying in wait for the locusts. Rising high in the air in flocks of thousands, these storks went through the most wonderful evolutions.

The weaver-birds, which here fix their hanging nests upon the trees in great numbers, were also extraordinarily full of life just now, and their nests full of eggs and young. While the old birds fed their young only a few

days out of the shell with locusts, the slightly bigger ones found their nourishment in ripe grass-seeds.

The weaver-bird which I myself discovered in 1899 (*Ploceus schillingsi*) was now mating; and the prince collected a number of specimens of this handsome bird, of which the males when old are coloured a beautifully gleaming gold, and which always builds its nest right over the water, either in bushes or among reeds.

A female ostrich which I shot, and of which I presented the contents of the stomach to the Berlin Museum, had been eating nothing but grass-seed in enormous quantities and had produced an egg out of season. But for this one egg the ovaries were completely inactive. The natives told me that when the grass grows so suddenly ostriches lay single eggs not infrequently, out of the breeding-season, when straying on the velt.

We moved our camp down-stream for some days, and, while Prince Löwenstein had the good luck to bring down a fine rhinoceros running close to me, we suddenly came upon a herd of buffaloes out in the open on the same day—more than sixty of them—enjoying their siesta in the shade of some acacia-trees, side by side with water-buck (*Cobus aff. ellipsiprymnus*) and Grant's gazelles (*Gazella granti*).

Most unfortunately I did not succeed in photographing them, either standing still or running; I had not got my apparatus yet into complete working order, and the light, moreover, was unfavourable.

Out of this herd the prince and I shot one bull and

one cow. Our joy was intense over this piece of rare luck, and we camped near the river in order to undertake the preparation of the skins. By putting forth all our efforts we succeeded, in spite of the burning sun, in making really valuable zoological specimens of them, and thus saving them for science. The cow was pregnant, the young being of a dark coffee-colour. We were able to treat its skin successfully also. These operations called forth the best efforts of every one in the caravan; and it was a matter for great satisfaction that they were crowned with success.

Here I may give the measurements of the bull. The length of the skin from the muzzle was 4 metres; the greatest girth, round the belly, 3·60; the skull weighed 25 kilos; that of the cow, 15.

As rain set in, we had to salt the skins. The animals were, as usual, covered with ticks (*Rhipicephalus appendiculatus*), those pests of the African buffalo.

So, by good luck, I had at last seen a herd of buffaloes by daylight out in the open! Until then I had never beheld a buffalo except in thickets or among reeds. We reflected mournfully on the time when, before the devastations of the rinderpest, such a sight was to be encountered daily in these regions of East Africa.

Two days later the Prince brought down a male giraffe, but we did not succeed in preparing the skin. Like all males, it had five projections from its forehead. Its measurements were as follows: Length of line from nose to the longest of these forehead projections, 88 centimetres; length of projections, 22 centimetres; circumference of

C. G. Schillings, phot.

IN MARCH THE WHITE STORKS MAKE READY FOR THEIR RETURN TO THE NORTH, AND ASSEMBLE IN IMMENSE

head above the eyes, 1 metre 6 centimetres; circumference of the projections at their bases, 25 centimetres, up above, 22 centimetres. Weight of head, with about 30 centimetres of neck attached, 40 kilos.

During the next few days we made several excursions on the velt, in the course of which I got some guinea-fowl and a corncrake (*Crex crex*), so well known in

STORKS TAKING TO FLIGHT

our meadows at home, and also came upon a great number of giraffe-tracks.

Upon the little island in the river were to be found the nests of mire-drums (*Bubulcus ibis*) and of herons of other kinds, whose eggs I was able to get. Here also were still larger colonies of my weaver-bird (*Ploceus schillingsi*). A golden cuckoo (*Chrysococcyx cupreus*), had chosen the nest of one of these birds for hatching her

eggs, and her young birds had ejected their foster-companions into the river, therein to be drowned!

Having by this time familiarised myself with the telephoto apparatus, I succeeded in taking a number of excellent photographs of fringe-eared antelopes (*Oryx callotis*). This entailed a very interesting but fatiguing pursuit, as the antelopes, whose young ones had put in an appearance only a few weeks before, were very shy.

In the course of an expedition together one day Prince Löwenstein and I were suddenly surprised by a discharge of guns, which caused us to fire off ours, so as not to run further into danger. The discharge came from the Askaris of a heliograph detachment, which was on its way coastwards from Kilimanjaro, and which, having left the caravan-track, was relying for provisions upon the big game they got *en route*.

Most of our people soon went back with great stores of maize which we had laid in at Ruroto for the provisioning of our caravan, and as zebras were to be met with as well as antelopes, ostriches, and other big game, we proceeded slowly upstream in order to give the Prince his wished-for chance of sport, while I busied myself with my photography.

The heat affected us more and more. The grass dried up, and the ground split in the river-bed from the dryness. Locusts of various kinds belonging to the genera *Schistocerca* and *Pachytylus* made their appearance in immense quantities, marabous lying in wait for them in long rows on the velt, often with storks to keep them company.

As we made our way through the high grass, the long caravan starting up clouds of locusts at every step, a hundred or more hawks of small size came round us from every direction, seizing the insects with their beaks and eating them in full flight. These were the beautiful night-hawk and a graceful species of kestrel hawk (*Cerchneis vespertinus* and *Cerchneis naumanni*), and it

DURING MARCH THE MIRE-DRUMS AND THE BLACK-HEADED HERON WERE HATCHING THEIR EGGS ON THE ISLETS OF THE RUFU RIVER

was beautiful to see them winging their way through the air, sometimes coming to within a few feet of us in their eager pursuit.

Suddenly, just as I was about to get on my mule, the Prince and I caught sight of three lions disappearing in a thicket of thorns. There was no possibility of a shot then, so we pitched camp in the neighbourhood with a

view to getting at them later. This, unfortunately, we did not succeed in doing. Our halt, however, gave us a wonderful opportunity for ornithological research in this river-side region.

Shortly before sundown a Cape stone-curlew (*Œdicnemus capensis*) flys past over the dark waters of the stream with whirring wings and a curiously shrill whistle, which sounds like Vee-ee-ee-ee-ee-ee-ee-ee-ee-ee! getting quicker and sharper with each repetition, the last of all being so shrill and piercing that it impresses itself unforgettably upon the ear. The bird is breeding just now, and only a few minutes before sundown—but then all the oftener and more strenuously—it gives out its song of joy and love over this mournful river-side, from sandbank to sandbank. It knows well how to keep out of the way of its dreaded neighbour the crocodile, as does also the Egyptian goose (*Chenalopex ægyptiacus*) now sitting on the sandbank.

Suddenly there emerges in mid-stream, silently and only just perceptibly, the head of a crocodile more than four yards in length. The goose has espied him, and, raising herself, gives out a quick cry of warning. The crocodile remains motionless, but the goose keeps her weather eye open.

Kingfishers (*Ceryle rudis*) make use of this twilight hour for diving into the water and snatching at the small fish. The water splashes up in the light of the setting sun, and drops fall from the feathers of the bird, which takes up its place again upon a dry branch above the stream, ready to pounce down again next moment. Now

C. G. Schillings, phot.

A PAIR OF THOMSON'S GAZELLES PHOTOGRAPHED AT NIGHT TIME BY FLASHLIGHT

flit past a number of those very remarkable birds aptly termed clapper-bills (*Anastomus lamelligerus*).

Ibises and herons alight from their slow flights upon neighbouring islands; the sun has gone below the horizon, and a species of goat-sucker (*Caprimulgus fossei*) begins its monotonous song hard by our camp. Far off the velt is reddened by a fire. Darkness comes on

DARTERS, WITH THEIR SNAKE-LIKE NECKS, WERE ON THE WATCH. WE FOUND THEIR BLUISH EGGS, COVERED BY WHITE CHALKY STUFF, IN THE ACACIA-BUSHES ON THE ISLANDS

quickly. The camp-fires flame up, and African camp-life is to be witnessed in all its romance. Then follow often hours of photographic work and experiment in the stifling atmosphere of a hermetically closed tent. After which, when fever is not on us, sleep demands its turn, and the weary body finds in slumber new stores of strength for the efforts of the coming day.

At a distance of some miles from the camp I found a large pond in the bed of a dried-up river. Put upon the alert by seeing a vociferous sea-eagle (*Haliäetus vocifer*), I found in the pool great quantities of fish, which were doomed to destruction by the unexpectedly quick drying up of the stream. They had left it at spawning time, and been cut off. My men took over three hundred kilos of much-needed fish this day, and the news of their big haul gave much joy in the camp.

By this pond a pair of Egyptian geese had hatched their eggs. The young birds that still lived were about three weeks old; others had been swallowed by two small crocodiles, which were caught by my men when they were drawing in the fish. In one of these crocodiles, only about a yard in length, one of the goslings was found almost whole and entire!

Next day I was to come near meeting the same fate as this young gosling. Crossing the river in a fragile boat, two blacks and I got entangled in a thicket, lost an oar, and with it all control of our course. Next moment we were being swept along as swift as an arrow by the current in mid-stream.

Below was a deep, quiet pool, in which a great number of big crocodiles lay in wait for their prey. Fortunately our boat came suddenly upon a rock and capsized. We owed our salvation to the fact that both my men and myself were accustomed to the water, and that we were all of tall stature. This enabled us, standing upon the rocks in the water, to hold on to the upturned boat, without, however, being able to move away,

as the deep rushing water on each side of us made this impossible.

All this happened quite close to our camp. As quick as lightning, our soldiers and carriers were aroused and the former opened fire from their Mauser rifles in order to keep the crocodiles from attacking us.

While the bullets whizzed round our heads, Prince

HERONS HAD MADE THEIR HOME IN THE BRANCHES OF THE TREES OVERHANGING THE STREAM

Löwenstein, without losing a moment, jumped into the river to try and save us. This action on his part deserves the warmest praise, though of course it was not possible for him to secure our safety by himself. Our rescue needed the combined efforts of a large number of our men, who, roped together, drew near to us and brought us to land under the continued fire of the Askaris. However, we owed our rescue from a very tight corner chiefly to the

initiative of the Prince. In such moments one gets to know and appreciate one's comrades better than one might in years of companionship at home.

We gave up all hope of coming again upon the lions we had observed. When we sighted them they had just been tearing a hen-ostrich to pieces (as I found the day after), but they did not return to its carcase.

My ornithological collection had been appreciably expanding, and now included a considerable number of prepared skins and eggs. Slowly following the course of the stream, we gradually drew closer to Kilimanjaro.

Now, towards the end of March, the approaching rainy season—the "Masika mkubwa"—gave signs of its coming. We came in for a tremendous storm one night, which deluged our camp in a few minutes and filled our tent with water. The thunder crashed above us, the atmosphere was charged with electricity. No one who has not experienced a tropical storm in the desert can form any impression of this marvellous phenomenon.

A series of forced marches over the now sodden marshland brought us to the Kahe district, a small oasis of cultivation in the midst of the velt at the foot of Kilimanjaro.

My old friend of former years, the chief, had been murdered. His successor did not seem to me to have much authority.

On arriving at the station of Moshi on Kilimanjaro, we found that my friend Captain Merker, who received us most cordially, was just on the point of going back to

Europe on leave after seven years' uninterrupted residence. One needs a rare degree of energy to survive seven years' residence in the unhealthy climate of East Africa without a break!

The rains now came on and kept us at Moshi.

Prince Löwenstein, who is an ardent climber and who

A BIG HAUL: MY MEN RETURNING TO CAMP LADEN WITH SEVERAL HUNDREDWEIGHT OF FISH

had purposed making his way up to the heights of Kilimanjaro for collecting purposes, suddenly received news which obliged him to alter his plans and depart for South Africa. He went off to the coast with Captain Merker, and I pursued my journey alone.

The departure of the Prince deprived me of a first-rate comrade. The loss came home to me doubly because many hardships and difficulties had taught me to appreciate

a true and sympathetic companion in good times and bad, a man with his heart in the right place, and with a faculty for coping with the hardships of life in the wilderness not easily equalled.

Unfortunately a number of deaths had occurred among the asses at Moshi, which to my mind is just as unhealthy as any other such place in East Africa. The Greek merchant Meimarides, who lives there, had lost more than a hundred of his native Masai asses. This did not surprise me very much, as I had long known that domestic animals were apt to sicken in this neighbourhood. Asses—especially the superior breed of Muscat asses and mules—soon die there, lasting only two or three years under the most favourable circumstances; horned animals are kept by the Wadshagga in closed sheds by stall-feeding, cattle allowed to graze in the open invariably dying very quickly.

This stall-feeding is not due to fear of the Masai, but to the knowledge that the animals can only be kept alive in these sheds of the Wadshagga, which smoke protects from the gadflies.

It was interesting to me to find here at the beginning of April the species of genet (*Genetta suahelica*) which I myself had discovered. One of these black genets was killed at night by a shepherd just as it was about to fall on a kid belonging to my herd of goats. This black colouring is not infrequently met with among carnivora in East Africa.

It is reported from Abyssinia that it has long been a practice of the Negus to bestow a black leopard's skin

as a mark of rare distinction upon persons whom he wishes to honour. It would seem that the black leopard is sometimes to be met with in these regions—a counterpart to the black leopard of the Malay countries so well known in our Zoological Gardens.

Similarly the serval was known in its black variety to the Kilimanjaro people, and I myself had succeeded

WE HAD TO TAKE SPECIAL PRECAUTIONS WHEN WE WENT AFTER THE TIMID ORYX ANTELOPES

in bagging specimens. Lions have never been seen with entirely black skins, though they have been known to have black manes. The black genets were new to zoologists when I found them at Moshi in April 1903. I found two young Coke's hartebeest (*Bubalis cokei*) and a young zebra in the possession of the Moshi station. Unfortunately it proved impossible

to bring them up, as was the case also with a number of other animals procured for the station by the natives, who were under orders to hand over the young of all animals taken by them.

Captain Merker had three splendid specimens of the white-tailed guereza (*Colobus cadatus*) caught for me by natives. We wanted to see whether I could not bring them back to Europe alive. Unfortunately I did not succeed in this. The guereza which I myself got hold of in 1900, a male, and which I presented to the Zoological Gardens at Berlin, is still the only living specimen in Europe.

At last, after continual downpours, there came a really fine day soon after the departure of the Prince and Captain Merker, and I availed myself of it to set forth from Moshi on my march to the Njiri swamps, intending to pitch my camp by the Himo River.

On the same day the natives told me of two large bull-elephants which had been observed for some days past in the neighbourhood of the station. I did not like to interfere in any way with the elephant-hunt which the acting commandant of the station had at once organised; but I should have been glad to seize the opportunity both of photographing the elephants in such bright, sunny weather, and also of securing one of them for a museum. This could only be done in the neighbourhood of a station. So big an undertaking would fail out in the open for lack of facilities. Unfortunately both elephants were shot in such a way (as was also an immense bull-elephant, which fell to the rifle of

a Greek dealer) that the skins could not be prepared for zoological purposes.

The Governor, Count Götzen, has now, it is very gratifying to state, started a preserve for elephants within the confines of the station, in response to representations made to him by Captain Merker and myself; so it is to be hoped that, instead of being decimated as they

VULTURES ON THE WING

have been of late, they will find a haven of refuge in this district. This is all the more satisfactory in that it is only near the station that regular elephant-hunts are practicable. Out in the velt there is, of course, no means of controlling the shooting of big game. It is well that the station officials should set a good example. Stringent rules regarding big-game shooting are in force in British East Africa in the neighbourhood of the Uganda

Railway, with the result that great herds of wild animals may be seen quite near the railway lines.

On this day, to my delight, I succeeded in getting some good pictures of zebras and hartebeest antelopes, taken at a distance. I was the more pleased because, owing to the complete lack of control over the shooting by Askaris in the neighbourhood of Moshi, the whole district had been practically denuded of wild life. In this Moshi region, where one of the first commandants, Herr von Eltz, had killed as many as sixty rhinoceroses, nowadays even a single rhinoceros is seldom seen.

You no longer see herds of a hundred zebras, such as Professor Hans Meyer found here years ago. It is not to the rifles of sportsmen, however, that they have fallen. They mainly owe their destruction to the unchecked shooting of the black soldiers, who had the ammunition stores at their disposal. In 1896 I myself came very near to being shot by these gentry.

The fable about "slaughterings" by sportsmen—especially English sportsmen—being the cause of the disappearance of the fauna in lands like East Africa seems impossible to root out of people's minds.

In German East Africa, and in other unhealthy and fever-infested countries, very few sportsmen, good or bad, have been at work up to the present. The great expense of sporting expeditions is enough in itself to keep them away.

But millions of bullets from the rifles of Europeans of all descriptions, of Askaris, and, last but not least, of the natives, have been whistling over the fields of German

East Africa for the last twenty-five years. I know of one case in which a detachment of Askaris shot down twelve elephants at one go. What countless thousands of wild animals have been destroyed by cattle-dealers and other travellers of all kinds! What thousands must be put down to the account of the so-called Ostrich Farming Company of Kilimanjaro, the former directors

TANTALUS IBISES IN A SWAMP

of which and their officials have reduced the wild life of the district by one-half in seven years!

In regard to so important a matter, a frank word is not out of place.

Next day we marched in a heavy downpour to Marangu, where I was much interested in inspecting the ostrich farm of Sergeant Merkel, who entertained me

there. This enterprising man had reared an imposing stock of birds in one year, and had achieved much more in this short period than the Ostrich Farming Company, which, owing to bad management, has no profits to show for all these years, with large means at their disposal.

A long march brought our caravan next to the Rombo plantation, the scene of the murder of Dr. Lent and Dr. Kretschmer in 1894. How long will it be before numbers of other such calamities, here and everywhere in our colonies, bring it home to us that it is only possible to establish a civilised administration, in our sense of the term, over such regions, when we can support it by an adequate number of troops and police, maintained in every corner of it at a correspondingly enormous expense?

From Rombo we proceeded through dense banana groves, by narrow shady paths, to Useri, where the Mangi (chief) Mambua generously provided me with beans, and where we had to strike camp in the middle of a banana plantation.

This Useri district, with its winding, intricate, densely shaded paths and banana-plantations, is still little known. Its inhabitants are shy and retiring, and water is so scanty here that they can only get it from the banana stalks.

More long marches followed now. We crossed the Ngare-Rongai (of which the water was icy cold and most excellent), and presently I got to the Njiri swamps by way of the watering-place Marago-Kanga.

These swamps are called Ngare-O'Ssiram by the Masai,

C. G. Schillings, phot.

THE MILITARY STATION AT MOSHI. THE KIBO PEAK OF KILIMANJARO IS THE BACKGROUND. THE MOUNTAIN AND GLACIER ARE UNUSUALLY FREE FROM CLOUD

because the lesser kudu (*Strepsiceros imberbis*), in their language, o'ssiram, used to frequent them.

I had been the first European to describe these marshes and their surroundings in 1899, the year of the rising. In spite of the unhealthiness of the region I pitched my camp here for a lengthy stay, so that I might be able to take plenty of photographs of animals, and make a careful study of the whole neighbourhood. Only the western Njiri marshes have as yet been described thoroughly in the works of the Austrian Count Wickenburg; they are, however, by no means of the extent and importance indicated upon the maps hitherto executed, though naturally their extent is much greater in the wet season than in the dry. They seem to me to have been formerly more extensive than they are now, as is the case with most of the other marshes and inland seas throughout East Africa.

EGYPTIAN GEESE ON THE SWAMPS

VI

By the Njiri Lakes

THE time of the great rains came to an end that year as quickly and suddenly as it had set in. In the course of three weeks immense expanses of water had spread over the parched velt, and pools and lakes had filled. The scorched and blackened soil had become covered as though by magic with rich green. Trees and bushes had been awakened into life out of their winter sleep, and swollen streams took the place, for a brief period, of empty river-beds.

In the deep valley to the west of Kilimanjaro, the lowest declivities of which form the west and east Njiri swamps, the masses of water coming together formed one great lake.

For weeks the greater portion of the animal world had roamed at large over the watered and grass-grown steppes. The remotest regions had been made accessible to man and beast. Elephants, rhinoceroses, and antelopes wandered everywhere, so scattered in every direction that

it was hard for the native hunter to bag much game. But with startling rapidity all this ephemeral vegetation withered. The waters dried up, the green faded away, and once again the animals went back to the oases which they make their winter quarters during the long periods of drought. The swamp-frequenting birds found a feast spread out for them, however, upon the Njiri Lakes, now slowly subsiding

IN THE RAINY SEASON THE VELT WAS FLOODED

and leaving behind them a wealth of floating and seed-bearing plants.

Immense flocks of geese and ducks covered the surface of the lakes. On the banks were clustered thousands of gnus and zebras; and, come hither from the furthest limits of the velt, rhinoceroses found their way into their accustomed drinking-places among the reeds; while waterbuck, hartebeests, gazelles, and a few buffaloes had

returned to the vicinity of the swamps, or actually to the swamps themselves. It was fascinating for a sportsman —fascinating even for a mere observer—to be able again to see and study these animals and their ways. But like conscientious warders of the wilds, myriads of fever-bringing mosquitoes lurked among the reeds and thickets of papyrus.

However, fever need not frighten the sportsman and

FLAMINGOES ON THE WING PRESENT A SUPERB SPECTACLE, THEIR ROSE-HUED FEATHERS CONTRASTING BEAUTIFULLY WITH THE BLUE OF THE SKY

observer in those regions. He is aware that here, far away from human habitations, the mosquitoes are less dangerous, less harmful than in inhabited districts or near caravan routes, where the slightest uncleanliness gives the fever-germs their chance. So I moved my camp into the midst of the treeless and bushless plain, salt-

encrusted and glittering in its whiteness, surrounded by the sedgy lakes and lagoons, leaving behind me everything I could do without, especially the asses and cattle, which would have been fly-bitten to death. Wood for burning and fresh water had to be fetched by day. The ground was only covered here and there by scanty grass growing in plots, broken by patches of quite bare soil. The sand was blown into dune-like hills by the wind, and small isolated ponds, quite without vegetation, lay scattered all round the camp.

From the reeds of the regular marshes upon the brink of which the camp-tents were pitched, clouds of flies swarmed every night in search of their prey. Hundreds of them were to be found in the tent itself, and were not easy to scare away. These flies, and the ibises enlivening the neighbouring air with their soft call, are unfailing accessories to this lonely life upon the marshes.

Photographic work, here particularly troublesome, begins in the evening and entails the wearing of clothes more suited to the Arctic regions. One's body thus saved from the stings of the bloodthirsty insects, one has to protect one's face and hands as best one may. Even so, one must be prepared to be stung dozens of times in the course of an evening.

My blacks, although stretched out at their ease in the smoke of the smouldering camp-fire, were not able to close an eye during the night. During the day they made up for this by sleeping in the blazing sunshine upon some bare sandy spot.

In such circumstances *carpe diem* is a good motto.

But for all disadvantages there was ample compensation in the wonderful opportunities one had for observation during the daytime. In places where the receding water had allowed fresh grass to spring up, were deep holes dug out by the natives to serve as hiding-places in which they crouched, and from which they took their toll with poisoned arrows from the herds of gnus and zebras coming down

A PELICAN

to drink. In the numerous holes they had made they could conceal themselves according to their need and the direction of the wind, and thus they were able, working together in small groups, to kill even rhinoceroses by the light of the moon. The whitened skulls of these animals shining in the sunshine near these holes as we passed them during the day told their own story.

Now, however, no Ndorobo, no Mkamba was to be

C. G. Schillings, phot.

MY CARAVAN ON THE MARCH. BEHIND US, TO THE LEFT, IS MAWENZI; TO THE RIGHT, KILIMANJARO
The saddle-shaped ridge in between is about 7,000 feet above the level of the sea

seen, and the wild animals came down to quench their thirst in no way disturbed by my presence. For days together I occupied myself exclusively with photography, getting any number of pictures and so managing that hundreds and hundreds of gnus and zebras hung round my camp almost like tame deer. Here they grazed along with flocks of the beautiful crested cranes and Egyptian geese:

CORMORANTS (*PHALACROCORAX AFRICANUS*, GM.) DRYING THEIR FEATHERS IN THE SUN

hundreds of Thomson's gazelle grazed like sheep among them, and wherever the eye turned it saw the rough, dark, strongly marked forms of the old gnu-bulls as they grazed apart, cut off from the herds.

For miles there are no shallows in these lakes. Where currents issuing from the velt flow to the regular marshes, the water reached up to our waists. Thickets of reeds border the banks far and wide, and the water is full

of the European floating plant *Potamogeton*, first discovered by myself in German East Africa; but only the seed-pods are to be seen, barely perceptible above the surface. Often I and my men wandered for miles over this world of water, seeing wherever we looked the beautiful great white egret, the black-and-white sacred ibises, black-headed weaver-birds, the small white mire-drums, and hundreds and thousands of Egyptian geese and great black-and-white spurred-geese; while in the far distance flocks of beautiful flamingoes flashed about on the banks

The duck known as *Nyroca capensis*, many other kinds of ducks, beautiful whydah-birds, waterhens, grebes, long-legged plovers (*Himantopus nimantopur*) and countless other kinds of birds moved about before our eyes, while every now and again some splendid vociferous sea-eagle would swing past above us, emitting its shrill whistle. On the banks plovers flew hither and thither—stragglers perhaps from flocks of these winter guests from the far North; while the white-winged black tern (*Hydrochelidon leucoptera*) swooped down upon the water.

Now, however, our gaze is arrested by the sight of a bird which is not often seen, and to which our presence is a matter of very keen anxiety. This is the beautiful avocet, black and white (*Recurvirostra avocetta*), a bird which used once to nest on the German sea-coast, but is now to be seen there no more. This is the first time I have found it breeding in German East Africa. It has brought up its young upon these salt and alkaline

C. G. Schillings, phot.

EGYPTIAN GEESE

marshes and its bearing is very curious and interesting when it knows them or its nest to be in danger.

With lively, constantly repeated cries it flies high above our heads hither and thither, drops down to the water, stoops its head down on to the surface, and in that position goes from one cluster of weeds to another, and then as far out into the open as the depth of water permits. Thus it infallibly betrays the position of its young. Very interesting it is then to see these swift-winged black-and-white birds, full of anxiety for their offspring, flit from the sand to the cloudless sky or on to the dirty-grey water, made muddy by the flocks of living things. The way in which their long legs hang down adds to the quaintness of their appearance. Now the sharp tones of the avocet, have produced commotion in the entire world of birds and a beautiful spur-winged lapwing (*Hoplopterus speciosus*) decides to make off.

What a wealth of dazzling light, of majestic isolation, of boundless distance and endless space!

Numbers of young avocets not yet able to fly we now see running along inland to save themselves, almost hiding their black-and-white feathers as they scamper over the ground with outstretched necks and beaks! How white the land here under its coating of salt, as though covered by newly fallen snow! Where the broad gleaming ponds merge in the deeper waters of the permanent marshes, and clusters of reeds stand up at first sparsely, but gradually become denser and denser, we see every inch of water covered by birds. Among the reeds the notes of small warblers and the curious little marsh-hens

(*Limnocorax niger*) are to be heard chirping away, the quarrelsome crested coot (*Fulica cristata*) wings its way over the surface, numbers of moorhens (*Gallinula chloropus*), single dwarf waterhens (*Ortygometra pusilla obscura*) and the long-legged parra (*Actophilus africanus*) display themselves before our eyes.

The sun hangs heavily over the expanse of water, covered by its carpet of plants, and the atmosphere is stifling. These plants are delusive in their island-like aspect, and it is with difficulty that we make our way through them cautiously step by step. Here and there, upon islands upon which acacia-bushes grow, flocks of cormorants have settled and are drying their feathers with their wings outstretched; but these enemies of fish, backed up by all the other members of the world of beasts and birds, have never been able to decimate the inhabitants of these lakes which swarm with fish. Wherever we turn our steps, we see in front of us little eddies and whirlpools which tell us of fish pursuing their prey. Throw a line, and in half an hour you have caught such a number of fish weighing five pounds and more that four men will find it difficult to carry the burden back to camp.

Up to the arms in water, hidden by the reeds, it is very enjoyable to remain here watching the birds. If it were not for the mosquitoes and another kind of small fly, which creeps into the eyes and nose and ears and stings viciously, one could remain thus occupied for days together.

A wonderfully beautiful little bird glides suddenly on

C. G. Schillings, phot.

VULTURES (*PSEUDOGYPS AFRICANUS SCHILLINGSI* AND *GYPS RUEPPELLI*)

to the water. Is it a young parra? No, apparently not; and to my delight I recognise for the first time the dwarf parra (*Microparra africana capensis*).

The extraordinarily long feet of these tiny birds make it intelligible how they manage to run over the surface of the water and with them they are enabled

TROPICAL VEGETATION NEAR THE COAST

to utilise as footholds the smallest morsels of floating vegetation.

Round us go whistling and twittering countless numbers of small warblers, now coming towards us inquisitively, then flying right away. Suddenly a shrew-mouse makes its appearance right at our feet in the midst of this watery world—that tiny beast of prey with a bite so terrible for its size; and by way of contrast to this pigmy there resounds the tremendous roar of the greatest of all the

inhabitants of this neighbourhood, the hippopotamus. To be sure, it is not always that one is left in such complete tranquillity in these hours of observation.

The neighbourhood was, I knew, free from crocodiles ; which is a curious fact, as the permanent marshes contain fresh drinkable water and it is only the periodical floods that are salty.

At the beginning of my stay I was making my way

I CAME UPON TWO HUGE PYTHONS

through one of these temporary lakes when, suddenly, while I was still some distance from the bank, there was a violent commotion in the water just in front of me. Waves broke in every direction and my men fled back in the greatest confusion, leaving me in the lurch and calling out "Mamba! Mamba!"

I myself thought I saw two crocodiles making for me,

and, not knowing how many others there might be to deal with, I also took to flight.

As may be imagined, flight was no easy thing, either for my men or for myself, waist-deep in water. When we got to a shallower part I tried to rally my men, but failed completely, so great was their alarm. On the bank, however, I took counsel with some of my Masai, and

WE MARCHED FOR HOUR AFTER HOUR THROUGH THE INUNDATED SWAMPS

presently came to the conclusion that it was not crocodiles that had frightened us, but huge snakes. Again I approached the spot where we had encountered them, and by dint of much exertion succeeded in killing three pythons—for such they were—of extraordinary size. They had been after the eggs of the marsh-birds and the birds themselves.

Here it was very enjoyable to take up one's position of

an evening on the small islands of these lakes. Lying flat on the ground I watched and listened to the birds of all kinds that flitted and fluttered all round me. There was an added spice of suspense in the possibility always of a hippopotamus coming upon one suddenly—a very ugly customer to meet in such surroundings. During the day they kept always in the deeper waters of the marsh,

VULTURES

but at sunset they would sometimes come to these shallower lakes.

If the twilight—far too brief, alas! in the tropics—provided rich enjoyment, dawn, hastening up, offered the most enchanting pictures of the magnificent plovers. Their wonderfully picturesque flight and their lively call are things no traveller can forget. The days passed away thus in studying the birds and taking photographs. Hunting for a time was put aside. I had no mind for it, so fascinated was I by these scenes which I have tried to describe.

C. G. Schillings, phot.

A FLASHLIGHT PHOTOGRAPH OF ZEBRAS DRINKING AT NIGHT. THEY APPROACH THE WATER VERY CAUTIOUSLY

Often during the nights there were also new and exciting matters to hold our attention. One dark, cloudy night it would be lions that provided our lullaby; another night perhaps it would be a rhinoceros or two. The sight of these gigantic brutes standing out in the moonshine on the glistening snow-white velt is still vivid in my memory. . . . In the far distance the glacier-bound Kaiser Wilhelm peak of stupendous Kilimanjaro soared above our heads in lonely majesty, as seen through the flood of moonbeams.

VULTURES AND MARABOUS FRATERNISING TOGETHER

VII

Evening on the Marshes

EVENING on the marshes in Equatorial Africa is a marvellous thing. To the northerner the sudden disappearance of the sun below the horizon is an ever new surprise.

With the coming of night, thousands of glow-worms—the Kimurri-murri of the natives—make their appearance, and grasshoppers mingle their chorus with the curiously wooden, monotonous croaking of the frogs.

Then there is the buzzing of the mosquitoes also, which infest these localities in myriads, swarming out of the papyrus-beds in their bloodthirsty search for prey. It would not be possible to remain here at all without some protection against their attacks. The mosquito-nets we have with us enable us to hold to our posts, though we do not escape some very painful stings through our clothes.

Livelier and busier they become ; their buzzing, louder and louder, mingling now with the voices of the marsh-birds, which are most active during the night. There is

a quick succession of curious twitterings. It is a blue water-hen that joins in the general chorus. During the daytime also its mysterious notes may be heard. "It is conversing with the fish," one of my men tells me, and the others back up his opinion. There is, of course, no truth in this, but these bird-calls are certainly full of the character of the swamp. The circumstance that

BEAUTIFULLY COLOURED KINGFISHERS WERE LOOKING OUT FOR THE SMALL FISH IN THE LAKES

a fish gives out a somewhat similar sound when caught causes the natives to have this notion about an understanding between fish and bird.

Now there is a sudden outbreak of many voices, from the hoarse croaking of the night-heron (*Nycticorax leuconotus*) to the monotonous song of the little warblers, and the loud warning cry of the waterfowl. My camp-fires flicker in the distance, the pale crescent

of the moon comes out from behind the clouds, and there resounds and reverberates throughout the marshy wilderness a voice of which the Bible makes mention—so Brehm reminds us—as one of the mightiest voices of animals in days of old. "And when Rehoboth lifts up his voice. . . ." Yes, when Rehoboth lifts up his voice, the whole world seems to tremble. The sound is so tremendous that its effect the first time you hear it is startling in the extreme.

At long intervals the old bull hippopotamus thunders out in this way over his kingdom, and the effect is magical—all the more so for the mournful aspect of the landscape. It means that he is emerging from his trodden, almost tunnelled paths and haunts, and betaking himself to some spot up on the dry land to graze.

Shortly before sunset yet another fascinating picture, full of life, is offered to our gaze. Hundreds of thousands of finch-like birds and weavers fly hot-haste to the swamp for their evening drink, before betaking themselves for the night to the security of the papyrus-thickets. Hither they have hurried in wave-like throngs, rising and falling, keeping a serpentine course along the level of the papyrus—looking indeed like some monstrous serpent seen afar off in the twilight. A kind of mighty humming noise accompanies their flight, so strong and loud that the stranger is apt to be frightened by it at first. It is extraordinary how exactly they keep to certain distinct courses in their flight every evening.

On previous occasions I had been struck by the way in which the individual birds kept together in their

C. G. Schillings, phot.

MARABOUS AND WHITE STORKS COMBINING FORCES AGAINST LOCUSTS

compact flocks—I was now almost convinced that they have signs imperceptible to human eyes and ears, by which they communicate with each other and are enabled to carry out like automata all the elaborate evolutions which their leader in these flights shows them he thinks necessary.

Countless pigeons of various kinds now appear upon the water, flitting to and fro nervously and cautiously. After drinking they also betake themselves to the swamp for their night's rest. Then come great flocks of guinea-

A LARGE FLOCK OF GUINEA-FOWL PERCHED ON A TREE NEAR ME

fowl. Settling on a tree close by, they are silhouetted sharply against the violet-hued horizon.

Yet another picture follows. A flock of tall crested cranes (*Balearica regulorum gibbericeps*), standing out like ghosts against the indescribably beautiful tints of the equatorial sunset, draws near with slowly flapping wings to seek secure sleeping-places on the small islands in the swamp. Evening after evening these beautiful birds come here at exactly the same minute. A creaking noise like

that of unoiled wheels accompanies their flight. It is one of the strangest sounds I have ever heard given forth by birds, and may often be noticed on a clear moonlight night for hours together. Now they have settled down on the tree-branches for their night's rest, and their imposing outlines form a superb accessory to the ornithological *mise-en-scène*.

The darkness grows apace, once the sun has set. Great flocks of geese and ducks have already taken flight,

CRESTED CRANES WINGED THEIR WAY TO THEIR SECURE NIGHT-RESORTS—THE ACACIA-TREES ON THE ISLANDS IN THE SWAMPS

but strange sounds betray the presence still of many feathered inmates of the marsh, and the whizzing of the numerous night-herons is now more audible than ever.

If we are in luck, we shall perhaps hear now a long-drawn, reverberating roar. The king of beasts is getting ready for the chase, and for a few minutes his mighty voice lends to the tropical evening its greatest magic.

Wherever the eye turns it sees the gleaming lights of the fire-flies swaying hither and thither, up and down,

like fairy lanterns emitting their bright, clear radiance over the otherwise jet-black marshland. Deep stillness alternates with the varied sounds from all the innumerable throats.

It is time to return to camp. One of the striped hyænas, that seem but now to come to life, is howling somewhere near. Two jackals answer back. On our road, straight in front of us, almost at our feet, starts up some wild creature, only to disappear in terrified flight among the reeds. From the panting sounds given forth we are able to recognise a reedbuck (*Cervicapra*). Through the marsh—water welling up round our feet—our path leads out of the night and the wilderness to the security of our camp, with its numerous fires flashing out like beacons to show us the way home.

OLD BULLS STAND APART FROM THE HERDS OF GNUS AS SENTRIES

VIII

By the Stream

THE extraordinary number and variety of animals that assemble during the season of drought in the neighbourhood of the drinking-places defies all description.

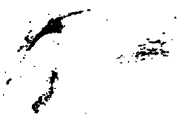
If they should be disturbed, or have reason to suspect an enemy—whether man or beast—these wild herds immediately seek another drinking-place, shunning perhaps a certain one by night, to seek it out next day at noon.

I shall never forget the immense assemblies of tropical animals which I observed whilst on my fourth expedition in East Africa during the autumn of 1903.

I encamped in the neighbourhood of a stream that meandered between steep rocks and after a few miles suddenly dried up. During its course between these sharp precipices it was barely accessible to the wild animals, but there were countless trodden passes which I discovered, all leading to the stream. Numbers of lions roamed among the thorn-bushes, tall grass, and reeds which flourished round about the river. At the point where it had commenced to dry up there were considerable tracts

C. G. Schillings, phot.

THE AUTHOR IN HIS TENT



of swampy ground covered with sedge-weed. These reedy marshes afforded resting-places during the day to both lions and rhinoceroses, but at night the bed of the stream was alive with thirsty animals of all kinds, as well as the prey they were pursuing.

Early in the morning large coveys of sand-grouse lead the procession of thirsty animals from the arid velt. These gorgeous birds are represented by three beautifully coloured species (*Pterocles gutturalis*, *decoratus*, and *exustus*). During the daytime they frequent the driest parts of the Nyika.

With the swiftness of an arrow the first kind fly to the water after sunrise, their coveys numbering about thirty or more. With lively and far-reaching cries which sound like gle-gle-gle-là-gak-gle-gle-gle-là-gak, the beautiful birds fly quickly past. Their manner of flying resembles that of the woodcock.

Quickly and suddenly they descend to the water. With the large flights of these sand-grouse single specimens of the *Pterocles exustus* often come too. These latter have lancet-shaped tail-feathers, and are smaller altogether. The *Pt. gutturalis* reach the ground before arriving at the water, and then run to it. The smallest kind, the *Pt. decoratus*, on the contrary, mostly swoop straight down on to the water. They satisfy their thirst in a quick and hurried manner, and soon rise in the air to regain their resting-places. Sand-grouse are not really trustful birds, and at the approach of man they rise with a clatter of wings and fly away.

Every morning this same glorious spectacle takes place

at the same spot. Noiselessly the strange umbretta (*Scopus umbretta*) makes its appearance. It never fails to put in an appearance at every large pool or drinking-place. This bird builds its extraordinarily large nest, composed of three compartments, always fairly close to the water, in the fork-like branches of an acacia. Here it lays three white eggs. We were constantly coming across this bird by the pools and lakes and river-sides as we journeyed. Although we once robbed a bird of two eggs it did not seem inclined to forsake its nest. Sometimes it flies up from almost beneath one's feet to find its way in a crouching attitude to some gnarled branch in the vicinity of the water, reminding one of the night-heron in its manner.

Single specimens of the Egyptian goose (*Chenalopex ægyptiacus*) are to be seen scattered about in every direction. Vultures and marabous keep to special resorts of their own.

Here and there we saw marvellously coloured shrikes, and amongst them the great grey shrike (*Dryoscopus funebris*), in large numbers. These birds associate and sing in pairs. The male will begin a harmonious note, to be answered so exactly by his spouse that it gives the impression of one bird singing. The song of these beautiful birds sounds like the chiming of glass bells among the thick river-side growth ; while from the summit of an acacia-tree comes the quaintly jubilant note of the shrike-like tschagra (*Telephonus senegalus*)—Too-ri-ay, Too-ri-ay, Too-ri-ay!

The impalla antelopes (*Æpyceros melampus*) are almost the only mammals that visit the water during

WITH A HEAVY FLAPPING OF WINGS THE BUSTARD RISES FOR ANOTHER SHORT FLIGHT IN THE AIR

the day, the other and larger species coming to drink at night time.

The native hunters make good use of these drinking-places, and put together shelters of reeds and undergrowth from which they shoot their poisoned arrows at the wild

herds. The impalla antelopes are fond of eating the fresh grass sprouting chiefly in the little hollows near the water. About this season of the year one finds herds of from fifty to a hundred heads of both sexes. Later the pregnant females betake themselves to the dense underwood and high grass, there to give birth to their young.

At the approach of man the impallas take to flight in a series of the most wonderful leaps and bounds. They sometimes jump as high as three yards above the ground. Their cries when alarmed remind one of those of our roebucks. Both sexes give out the same kind of cry.

Towards evening we come upon some of Kiell's dwarf antelopes (*Madoqua kirki*). Their colouring blends to such an extent with their surroundings that the eye needs long training before it can make them out. I myself, in spite of my experience with the fauna of the North of Europe, could not see one of these dwarf antelopes in the brushwood, not more than twenty paces from where I stood, although a black pointed him out. These beautiful creatures live, singly or in twos or threes, in the midst of prickly brushwood, a few bounds bringing them into safety in their inaccessible retreat.

One of my greatest pleasures was to observe the habits and customs of these animals in their hiding-places whenever I could get well into hiding for the purpose. With their fine sensitive snouts sniffing attentively on all sides hither and thither, these large-eyed, gracious creatures present a wonderful sight for the animal-lover.

The same may be said of Neumann's steinbok (*Raphiceros neumanni*), which frequents similar places

in the somewhat more open grass velt, and, owing to its brown colouring, is more easily seen than some of the other small antelopes.

As the sun sinks further and further in the west the neighbourhood is more and more enlivened by the arrivals from the animal world. My above-mentioned friends, the wise storks, have, in company with vultures of various

VULTURES

sorts, alighted on the branches of high trees close at hand. Here and there also an eagle puts in an appearance. Long chains of guinea-fowl run into the underwood; in the glow of the evening sun the wonderfully coloured "rollers" fly busily here and there. They have to complete their hunt for insects before night sets in. The clear song of the little wood francolins (*Francolinus granti*) makes itself heard, with now and again

the hoarse cry of the rarer Hildebrandt's francolin (*Francolinus hildebrandti*).

Loud and clear, by contrast, sounds the call of the common large golden francolin (*Pternistes leucoscepus infuscatus*) from the velt.

Over the neighbouring chain of undulating hills, from which many beaten passes lead to the watering-places, come groups of zebras, under the leadership of an experienced old stallion. They have stopped grazing, and approach the drinking-place warily, seeking out a spot on the stream which is sheltered from the wind, and then slowly and carefully assuring themselves by nose and eyes that no enemy lies hidden. The leaders give a quick look round, then their burning thirst overcomes their fears, and with long gulps they begin to drink. Feeling themselves safe, the last members of the herd come up, and the bed of the stream is crowded with about a hundred of these grand creatures—an incomparable scene.

Sometimes in their company, sometimes a little later in separate herds, come the white-bearded gnus (*Connochætes albojubatus*). These also come across long tracts from the velt. Now and again small companies of Thomson's gazelle (*Gazella thomsoni*) show themselves. The sun sinks further and further to rest.

The last rays of the sun setting on a misty horizon light up the charming and striking scene that I have so often gazed upon. Some of the zebras begin to paw the water with their front hoofs; another pressing up too near a gnu, the latter with a shake of its head pushes it on one side, but without hurting.

C. G. Schillings, phot.

WATERBUCK GRAZING IN THE OPEN

Two grotesque secretary-birds and a thirsty bustard had sought out the water long before the arrival of the zebra herds and then flown heavily away. Now the dead branches of mighty fig-trees are besieged by numbers of vultures ; their dark forms silhouetted against the flaming red evening sky.

Zebras and gnus have now quenched their thirst,

A PAIR OF LARGE VULTURES BUILT THEIR NEST NEAR MY CAMP

when from the hills comes a breeze. It touches me gently as I stand. The leader of the herd utters a loud call ; in the same moment the water splashes high in the air, and with a noise as of thunder the whole herd gains the river-bank. Covered with a cloud of dust they clatter wildly over the velt, their peculiar neigh growing fainter and fainter in the distance.

From different points of the velt an answering

neigh shows that several other herds of these beautiful animals are in the neighbourhood. Away they gallop over the hard ground of the velt to a distant place of refuge. Darkness has now set in and obliges me to relinquish my post of observation.

As I return to the camp the darkness of night has fallen. It is not long, however, before it is quite clear, and a most beautiful moon shines magically over the sleeping steppes. Jackals give out their querulous call and the hyæna's unlovely laugh is to be heard.

Now I hear the impallas whinnying. A leopard roars not far from the camp. Then for several minutes all is still again. Once more the neighing of the zebras is heard as they resume their wild scamper; but at present we wait in vain for the most thrilling concert that human ear can wish for. It is scarcely ever to be heard before midnight.

By the tracks and trails I had discovered I knew that at least thirty lions must have taken up their nightly quarters somewhere in the neighbourhood. Owing to the nature of the ground and the very thick undergrowth in this region I had not yet had an encounter with the king of beasts. But I waited patiently, for I wanted more than the passing view the hunter considers himself lucky to get. It was my intention to photograph His Majesty at night time. To do this I had to wait patiently and learn the customs and haunts of the animals in this spot.

It was not without reason that the herds of wild beast roamed round and about during the night. I knew

that the hartebeests, and perhaps also the shy oryx and huge elands, had come to the water. But all these animals feared their arch-enemy, the lion, who lay hiding among the reeds in waiting for their arrival.

The rays of the moon glimmered softly, reflecting here and there the white blocks of quartz that were to be found among the rocks in the vicinity of the camp. More and more animated became the life and movement of the animal crowds in the neighbourhood of the stream; I seemed to have a foreboding—I might almost say I felt what was about to happen. There! What was that? We were not deceived. It was the earth-shaking, indescribably impressive roar of the lion! Almost immediately several other lions join in the chorus! As if reverberating from the very bowels of the earth the mighty sound swells stronger and fuller, sinking at last into a weird low rumble that strikes the soul of man with terror.

He who has listened night after night, as I have, in a fragile tent to whole herds of lions roaring with all the power of their great lungs, will not fail to admit that it is an experience not easily surpassed!

For one moment the whole night-world seemed to listen to the voice of its lord; then, all around, one heard again the sound of animals betaking themselves in terror to the velt. Later, tortured by thirst, they returned once more to the stream to find some other drinking-place.

I have never seen more than seven lions together. Here by the river I could tell by the sound that there were as many, for they gave their grand nightly concert from

quite different directions. Free from the every-day levelling influences of the outer world, experiencing such things on a tropical moonlit night—a night almost as bright as day—it is not difficult to imagine the life of our ancestors, the troglodytes of the ice-world, who must have had the same experience every night!

Thus the lonely man in a little camp spins out his thoughts; the wings of fancy carry him home; he sinks imperceptibly from consciousness into sleep and dreams. But it is not for long; loud roars soon waken him again.

This time the roaring sounds threateningly near; black sleepy figures take courage and poke the camp-fires into a blaze. Those who are taking their rest by the confines of the camp come in to find greater safety, and the watchful Askari doubles his attention. . . . Next morning, only a few steps from the spot where some carriers had slumbered, we find the imprints of huge paws. Had I not ordered a thorn-hedge to be piled up on this side of the camp—who knows what would have happened?

I was lucky in having such a number of lions near my camp, but I had to use all my wits to persuade them to come within reasonable distance of my apparatus at night time. My attempts were at first without satisfactory results, until at last I hit upon a method that brought me to the desired goal.

As my photographs indicate, lions when possible creep along the ground towards their prey. Further, it appears that the lioness is always the aggressive party. The pictures give only single lions, but in reality there

C. G. Schillings, phot.

ZEBRAS DO NOT STAND OUT CONSPICUOUSLY FROM THE VELD. THEIR COLOURING, LIKE THAT OF GIRAFFES AND LEOPARDS, IS A GOOD EXAMPLE OF PROTECTIVE RESEMBLANCE

were several others in close proximity. They had gradually surrounded their prey and approached it from different sides.

The illustration in which a lion and lioness are making an attack together was unluckily spoilt by myself whilst "developing," but it was put all right at home. In the desert after many months a laconic telegram reached me from home with the word "Saved!"

There may seem to be something gruesome about sacrificing oxen and donkeys in this way; but they would otherwise fall victims probably to the tsetse fly—a horribly painful death; whereas lions kill very quickly and surely; they just give one bite in the neck, and do not torture their prey. I can vouch for this myself from having witnessed the sight repeatedly from my thorny hiding-place. Death was instantaneous in every case; and so stealthily does the lion creep up to its prey that it is only at the last moment that the latter tries to break away.

Deep stillness lies over the velt, in the dark night; a gentle rustling is heard now and again in the thick foliage and branches. Suddenly a roaring, mighty something strikes the ear and a heavy thud follows as the prey is captured. There are never more than a few scratches to be found on the booty; a crunching bite in the neck is always the cause of death. Many men killed in this manner have never even uttered a cry. Many other witnesses bear me out in this.

It is impossible to describe the joy with which we watched, some nights later, the forms of the great world of booty and rapine appear truly and accurately mirrored

on the little glass plate. Even the not too intelligent niggers were overjoyed, and for a long while it was the subject of their talk at the camp-fire.

I never once came within range or sight of a lion by day at that time. As soon as I laid my snares for them, however, I succeeded in bagging quite a number, including one unbroken series of seven big-maned specimens.

VELT VEGETATION IN THE RAINY SEASON

Some lions look with disdain on oxen; they approach until within a few paces, but keep night after night to their accustomed prey—the wild herds of the velt.

Days and weeks pass thus until rain-clouds appear on the distant horizon, and, as with one stroke, the mighty concourse of animal life at the pools vanishes. Their fine instinct tells them that rain-pools and fresh grass are now to be found on the velt.

C. G. Schillings, phot.

THE LIONESS DROPPED HER PREY AND TOOK TO FLIGHT AS THE FLASHLIGHT BLAZED OUT

CANDELABRA EUPHORBIA TREES

IX

The African Elephant

OUR knowledge of the ways of the African elephant is very scanty. We know that from the days of Scipio man began to break him in to service like his Indian cousin, but there is little to be learnt about him during the intervening centuries, beyond that he continued to flourish in his hundreds and thousands all over the vast regions in which he dwelt. So it was until, with the arrival of the European traders, ivory became all at once a much-coveted article. The supply of elephants' tusks appeared inexhaustible. In the west of Africa, especially, there were undoubtedly large treasure-stores of ivory, accumulated by native chiefs. The invention of the modern rifle made the slaughtering of elephants an easy matter. It would be difficult to calculate the tremendous numbers of elephants that were killed. The natives, seeing the gain to be got, took part zealously in the annihilation with their primitive weapons.

Immense quantities of ivory have been exported in recent years. In the last ten years the Antwerp ivory market has taken on an average the tusks of 18,500 elephants yearly; from 1888 to 1902 it took 3,212,700 kilos of ivory, each tusk weighing on an average about 8½ kilos; nearly the whole was taken from the Congo district. It is just the same with regard to the other ivory-markets in the world, and the above figures give a very true, if sad, picture of the destruction of the noble animal. Soon, when the elephants are all destroyed, dealers will put up prices, and then ivory will become an article of fashion, obtainable only at a fancy figure.

All these elephants are killed merely on account of their ivory. It does not say much for the highly developed science of our day that it has not been able to produce a substitute. Fortunately the Indian elephant has a happier fate in store, for the females carry but little ivory, and even the bulls do not grow very large tusks compared with those of their African cousins. The female elephants in Africa have tusks weighing from 10 lb. to 30 lb. each—sometimes, but very seldom, as much as 40 lb. The males have extraordinarily large tusks. But they vary very much in size, and an average of about half a hundredweight would come near the truth. At any rate, the English officers in British East Africa considered a tusk weighing one and a half hundredweight a suitable wedding-present for the Prince of Wales.

This was far from being a record weight. In 1898 some native hunters shot a very old bull with tusks weighing together more than 450 lb. Both tusks were for sale in

C. G. Schillings, phot.

THEIR TUSKS WEIGHED ABOUT

the Zanzibar market. Unfortunately I was unable to procure them for a museum at home, although I had been commissioned to offer a large sum for them. They were sent to America, and my repeated efforts to obtain them only resulted in a wire demanding 21,000 marks. Later one of these tusks found its way to the British Museum in London. I think I may safely say that these

A WONDERFUL ELEPHANT-TUSK. ONE OF A PAIR WEIGHING TOGETHER MORE THAN 450 POUNDS. THE ELEPHANT, A VERY OLD ONE, WAS KILLED NEAR KILIMANJARO IN 1899

were the largest tusks seen anywhere in Africa for some time. They made a great sensation among the commercial world of the East African coast. No such tusks had ever been seen there. The accompanying illustration shows the size of one of the pair.

This reminds me that unfortunately up to the present time not a single museum in the world has secured one

of these huge African male elephants, for reasons I have stated in another place.

Tusks weighing over 100 pounds are not often met with. The size of the tusks does not always depend on the age and size of the elephant; it depends more on the race, although even single families have tusks varying in size. It seems also that in South Africa the tusks are not as large as in Equatorial Africa.

So far as we know, the weight and size of the heaviest and longest elephant-tusks as known in the whole world are as follows[1]:

	Weight. lb.	Length. ft.	Greatest Circumference. in.
African Elephant (*Elephas africanus*)	247	9.10	$19\frac{1}{4}$
	$226\frac{1}{2}$	$10.2\frac{1}{2}$	$24\frac{1}{4}$
	175	8.5	$23\frac{3}{4}$
Indian Elephant (*Elephas maximus*)	109	6.1	—
	106	6.11	$15\frac{1}{2}$
	100	6	—
	81	8.9	$17\frac{1}{4}$
Mammoth (*Elephas primigenius*)	173	11	$20\frac{7}{8}$

The so-called solitary elephants, big old bulls, with very large tusks, are not generally more to be feared than ordinary ones, though on account of their size and tremendous heads they are much more difficult to kill. Among the herds tuskless cows are sometimes to be found, but not often; tuskless bulls are still rarer. Both are known to be very ferocious and dangerous. Elephant-hunters tell us that it sometimes requires a tremendous

[1] These figures are taken from the book by Rowland Ward entitled *Records of Big Game.*

number of shots—fifty or more—to kill a large old bull. It is a well-known fact, too, that whereas, in districts where nature is favourable to them, elephants have sound and undamaged tusks, in hilly neighbourhoods they are often broken. There are various theories to account for this. It is doubtless caused chiefly by the way in which they tear up the roots of trees. Following herds in narrow passes, I have often come upon large numbers of big pieces of tusks broken off in steep and rocky places. I have preserved several such pieces in my collection.

The elephant uses his tusks with great skill in tearing off the bark from trees. He chews this bark or sucks out the sap and then throws it away. He chiefly attacks trees of which he can detach the bark with one prod of his tusk without stopping. I could often follow the track of the herds for miles by the help of these marks on the tree-trunks. It set me thinking of Robinson Crusoe, who records the same thing. One often finds, too, smaller trees which have been quite trodden down or snapped in two. I fancy that the rending off of the bark and the breaking of the trees helps to develop the tusks, apart from the exercise obtained by the fighting of the bulls amongst themselves. In some cases the branches of the trees seemed to be broken off without any desire for food on the part of the animal which made the onslaught.

The tracks of the elephants are often extraordinarily deep in the "Masika"—the rainy season. In the dry sand of the velt during the drought one can tell whether the track is a recent one or not by the foot-

prints being sharply defined or somewhat blurred. The bulls are recognised by the long and narrow tracks of the hind feet. Those of the cows are more round and uniform.

I have assured myself of the fact that in West Africa the food of elephants consists exclusively of the branches, bark, and fruit of trees, and of all kinds of grasses. Professor Volckens, who on several occasions examined the elephants' dung in the Kilimanjaro district (some 6,000 and 9,000 feet high), found traces of *Panicum* and *Cyperus* as well as sedge-grasses. All the best authorities on this matter are of the same opinion as myself.

On the other hand, I have often found that the elephant eats many kinds of "bow-string" hemp (*Sanseviera cylindrica*), but that he drops the chewed stalks, which are bleached by the sun and can be seen for a great distance around on the velt. These chewed bundles, of which I have some specimens in my collection, are of a large size. It seems that a certain quantity of this hemp gets retained in the stomach in the same way as in that known hemp-eater, the lesser kudu (*Strepsiceros imberbis*). It must be remembered that this hemp has a great power of retaining water, and in the very arid velt it is for the elephant a much-needed aid.

The usual abode of the elephant in East Equatorial Africa is not, as might be imagined, the cool and shady virgin forests, but rather those places where he knows himself less likely to be followed: in the wooded districts in the rainy season, and at other times in the tall grass or by the reed-grown river-side and in the thick under-

growth which is found on a certain level on the mountain-side, and which forms a shady and inaccessible retreat. These districts which are patronised by the elephant are generally at such a height as secures them rain more or less during the whole of the year. They are distinguished by the word "*subugo*" in the Masai and Wandorobo districts. From these the elephant often roams far afield during the rainy season. The cunning old bulls, at any rate, only leave the great mountain forests, at this time impenetrable. These districts are often of such an impassable nature that they can only be explored by means of the tracks trodden by the elephants and rhinoceroses. While our thick-skinned friend knows how to traverse with ease these luxuriant tracts, man has to make his way slowly and with much trouble. When wounded or ferocious elephants are in pursuit, the hunter's flight is hindered at every step, whilst the elephant and rhinoceros easily overcome all these obstacles, and may be very dangerous to the hunter.

The haunts of the elephant are usually confined within restricted areas, and as in regions where he is hunted he only emerges from them at night time, it often happens that Europeans pass many years without obtaining a sight of him. The former commander of a fort in the Kilimanjaro district told me that, in spite of numerous expeditions he made, it was seven years before he saw an elephant. Most Europeans have had similar experiences, whatever may be said to the contrary. Even careful observers have been misled in estimating the number of elephants in certain districts by the fact that

the same animals are constantly reappearing. Elephants are very active, climb mountains easily, and keep continually on the move.

Thus Hans Meyer, in his wonderful work *The Kilimandjaro*, talks of the abundance of elephants on this mountain and of the large quantities of ivory to be secured there. He said this at a time when elephant-shooting was a monopoly of traders and the supply was already nearly exhausted. By "exhausted" I mean in this case a reduction to about a thousand heads in the whole district of Kilimanjaro—an immensely vast region, bounded on one side by a line which, beginning at the English boundary, skirts Nguruman, Eyasi Lake, and Umbugwe until it reaches English territory again by way of the Pare Mountains. In this territory there was a supply of many thousands of elephants some years ago. To-day not more than 250 or 300 elephants could be found.

I am able to state this for a fact with the greatest confidence, and have therefore never been able to understand why the insane custom was introduced of compelling the native chiefs, by way of punishment, to deliver a certain amount of ivory to the officials of the Government. It would seem almost as though they wished to induce the natives to destroy the few remaining elephants.

In South Africa the authorities have since 1830 succeeded in retaining some large herds of elephants in Cape Colony, in the Zitzi Kamma and Knysna forests. Should this, then, be impossible in the case of natural elephant-haunts like the forests of Kilimanjaro?

One must bear in mind that the largest portion of

the mountain is enveloped in rain-clouds, and could never be colonised by either natives or Europeans, while the possibilities of existence for Europeans there, as all over East Africa, seem up to the present day to be nil.

In former days an elephant-hunt was very different from what it is now. A few mounted men would fasten

"FUNDI," ARMED NATIVES PERMITTED TO HUNT BIG GAME. THESE GENTRY HAD BEEN AFTER ELEPHANTS AND RHINOCEROSES. THEY CAME TO ME TO BEG FOR POWDER, HAVING RUN SHORT, BUT THEY HAD TO DO WITHOUT!

on the heels of the herd, and when the elephants bore down upon them other riders would divert them from the object of the attack. By these methods whole herds were often destroyed.

The elephant has now almost disappeared from South Africa, with the exception of a few small herds in very unhealthy spots and a number of protected individuals in

the neighbourhood of Cape Town. To the former wealth of elephants in East Africa the accounts of the blacks testify. It is but a short while since these blacks travelled in caravans, consisting of hundreds of men, laden with quantities of exchange goods to barter for ivory. In German East Africa these caravans started from Pangani, the emporium of the slave traffic, to travel to Masailand by way of Arusha Chini and Arusha Ju. For a year or more they journeyed through the country between the coast and Lake Victoria, exchanging their wares for ivory, which they derived chiefly from the Wandorobo, an offshoot of the Masai. Later, however, having their attention drawn to the value of ivory, the Masai-El Moran themselves went in for elephant-hunting, and sold the coveted article to coast caravans. The coast-people passed their nights in camps surrounded by thorn-hedges, by which they protected themselves against the attacks of the Masai warriors, who often sought to plunder them. Great bartering and haggling went on by day. Patience was needed for this kind of trading, for it often took days and even weeks to buy a few tusks. At last the caravan would be laden with ivory, and would return to the coast to deliver up hundreds of tusks. Many precautions had to be taken. Oscar Baumann informs us that no caravan dared take a tusk over a beanfield, for that would be unlucky. Many of those who went with the caravan succumbed to the fatigues of the journey, or lost their lives in fighting against the Masai. Every man was armed with a muzzle-loader. These caravans were organised by Arabs or Indians on the coast, who

paid their men in advance, but kept the lion's share of the profits for themselves.

Thus was the desert scoured in all directions, with the result that by the end of last century it was denuded entirely of ivory and elephants. The transport of ivory was undertaken in combination with the slave-trade, slaves being made to carry the valuable goods to the coast on their shoulders. And the chief purpose of all this was to provide the billiard-players of the world with material for their balls—the beautiful soft ivory obtained from the African female elephant!

Nowadays the conditions are quite different. Smaller caravans, fitted out for this trade, still travel over the country; but very few larger expeditions of this kind are undertaken by the blacks, now that they would be obliged to penetrate very far into the interior. Some years ago I came across one such caravan comprising about four hundred men. Their goal was the country between Lake Rudolf and the Nile, a district then very little known, but which still hides a large store of elephants. I was naturally much astonished to find this company in possession of breech-loaders. The leader informed me with pride that for months—nay, years—the caravan had lived entirely on the flesh of wild animals, and that no bullet left their Mausers in vain!

Soon the ivory-trade will be a thing of the past. Already the European visitor laughs incredulously when he is told how matters stood formerly. It is easier for me to realise it, remembering as I do the vast numbers of rhinoceroses I have come across, and comparing them

with the elephants, whose fate they will undoubtedly share—and that indeed more quickly now, for the value of their horns is increasing.

The way in which the "Tembo," as the Waswahili call the elephant, adapts himself to the altered conditions of to-day is very remarkable. According to the accounts of reliable witnesses, in days long gone by the elephant hardly feared man at all.

In the rainy season the elephants disperse over the green, well-watered plains, whilst during the drought they hide in thick, inaccessible places. In South Africa the few remaining herds live in this manner. The finding of a new elephant-track is not a guarantee to the hunter that he will reach the herd. Elephants move with great swiftness, in many cases outstripping a fast runner, until the next bit of cover, the next marsh or hill, or until they reach some spot a tremendous distance away. When a herd becomes suspicious, it is possible to follow it for hours through the Nyika without being able to discover of how many individuals it is composed. One animal steps in almost exactly the same footprints as the other, and this is done until they feel safer, when they walk further apart. Elephants can go for a long time, too, without resting, and change their haunts so quickly that it is impossible to catch them up. They have an extraordinary faculty for foretelling rain when it is still some days off. They disappear suddenly, and remain in the neighbourhood of the pools on the plains until these dry up or other animals come to disturb them. I will leave it to others to decide whether they are capable of

deducing things correctly from past observations and recurring experiences, thus learning to know when and where to find water.

It goes without saying that one comes now and again upon elephants suddenly, sometimes even right in one's path. Indeed, I have observed that certain cunning beasts, finding themselves disturbed by the hunters in their own quarters, often take refuge in the proximity of native colonies, and hide there for days and weeks, knowing well by experience that this would be the last place in which they would be looked for. In this way a Greek trader of ten years' experience trapped, in the vicinity of Moshi, a bull which had been there for days, and had been pointed out to him by natives.

It is interesting to notice how the sporting fever has seized those Europeans who at home would hardly touch a gun, yet here have had no peace until they have joined with others to try the effects of their small-bore rifles on the great beasts, and then have immortalised themselves as skilful elephant-hunters by being photographed on the spot.

It is just in the neighbourhood of the stations and of the railways that it is possible to protect the remains of the animal fauna. If protection is not adopted there, how can we expect to exercise any control over either European or native away in the heart of the desert? It has happened that whole parties of Askaris under European leadership have together opened fire on elephant-herds. Lately these conditions have been changed, because in place of the vague and confused directions of earlier years the Governor,

Count Götzen, has instituted special rules and regulations, which secure the immunity of the elephants in the neighbourhood of the Moshi station.

This is a matter for rejoicing, and will, it is to be hoped, do away with the existing abuses, upon which Dr. Ludwig Heck comments severely in his book *The Animal Kingdom*; and will put an end to those "tall stories" of elephant-hunting, which he holds up to ridicule.

If this is sad information about the disappearance of the African elephant, it is a fitting conclusion to the "elaborate" fables of those persons who tell us in the sporting papers that they propose to go for the rhinoceroses and hippopotamuses when they return to the colony. Unfortunately, such persons are more numerous than might be supposed. For instance, I heard the remark made that German East Africa could only develop commercially when all the wild animals were destroyed. Germans must indeed learn how to colonise! I admit this openly, without shame!

The rate at which elephants move, especially when attacked or fleeing, is extraordinary. They go at a quick trot, and not at a gallop. This trot is perfectly noiseless in the rainy season, and enables the mighty beasts to travel at night time in an almost ghostly manner, like the rhinoceros and the hippopotamus. In the dry season, however, the moving herd makes a thundering noise on the hard ground. Elephants climb steep mountains, and, like the rhinoceros, tread deep paths among the rocks of the highest peaks. They go over the steepest ranges, and

come down in a half-sitting posture, as if they were tobogganing—very much as we have seen them in hippodromes and circuses at home. One must have seen how a thirty-seven-year-old gigantic Indian male elephant gets through the tiny door of a special railway truck to

From a photograph procured by the author at Tanga.

A CARAVAN LOAD OF EIGHTY LARGE AND HUNDREDS OF SMALL ELEPHANT-TUSKS, BROUGHT BY A TRADING CARAVAN TO THE COAST

understand how skilfully these heavy creatures know how to move about.

According to my experience, the elephant's method of attack is to approach very swiftly with widely flapping ears, and with a piercing, trumpet-like cry. On two occasions, however, no sound was made. Trustworthy natives, whom I had known for many years, have related how in some cases the elephant has seized hold of the black ivory-hunter, thrown him down, and bored him

with his tusks. Once an old bull ripped a hunter to pieces by putting its foot on the man's head, and slashing his body with its tusk as if it had been using a knife. There are many similar stories told of fatalities with elephants; one of the saddest was the death of Prince Ruspoli in Somaliland.

When flight is necessary, it is best made sideways; for the elephant makes his attack, as a rule, straight in front of him. This is all the more to be recommended because it is by an extraordinarily developed sense of smell that the elephant finds his way, and not by his weak eyes. His hearing also is excellent. Observers who doubt this fact do not know that in most cases the elephant is aware of the approach of an enemy solely by his sense of smell long before his hearing can come into activity; also that elephants are so accustomed to the noise of the snapping of branches, when they are in the herd, that they would not notice the sounds made by a hunter. Solitary elephants, however, are agitated by the slightest suspicious rustle. From some vantage-point I have often watched these animals in the valley beneath, and have had excellent opportunities of noticing how, with the help of their trunks lifted high over their heads, they were able to recognise the ever-changing breezes of the hillside, and to watch over their own safety and that of the herd.

Personally I am quite convinced that either the animals have a sense unknown to us, or that, by a quite unsuspected highly developed acuteness of known senses, they are able to understand one another to some extent. Moreover, they have a much keener and surer susceptibility to sound than man.

Once I found two elephants keeping company with an old male giraffe. For about eight days I was able to watch the three friends together. The services they rendered one another for their mutual safety were quite patent, and proved completely the theory that the elephant depends for safety on his sense of smell and the giraffe on his hearing. As far as I know, this is the first cited case of the elephant and giraffe making friends, whilst the English hunter, A. H. Neumann, found elephants and Grévy's zebras and Grant's gazelles together, as he tells us in his admirable book *Elephant Hunting in East Equatorial Africa*. I do not consider it merely a matter of chance that the elephant prefers to stay in the mountainous districts, for the direction of the wind varies according to the sun's altitude, and he is dependent for his safety on his sense of smell. When the elephant thinks himself secure, or by night, his movements are quite free and easy, but during the day, and in places where danger lurks, he is very shy and careful. Moving noiselessly, remaining the whole day in a small space, standing for hours under the shadow of the trees, he makes no sound except the unavoidable noises of digestion. Should an elephant utter a cry it would be a sure sign of approaching danger. But he cannot avoid the noises made by his digestive organs, for, of course, the enormous quantities of branches and leaves which are required to sustain such an immense body can hardly be expected to work noiselessly in that mighty laboratory—his stomach! This fact is valuable to the hunter, for it enables him to discover the whereabouts of single elephants.

Another reason which influences the elephant in his

choice of a refuge is the arrival of parasites, especially the *Oestriden* of the genus *Cobolldia*, which annoy and tease him exceedingly, and to be rid of which he retires helplessly into the jungle.

The blacks say that when the elephant discovers a man-track he tests it with his trunk, even if it be hours old, and then for safety's sake takes himself miles away from his momentary resting-place. This does not seem improbable when one considers the habit these animals have of taking up earth and sand with their trunk. I have not been able to prove this statement for myself, but know it to be true that the slightest suspicion causes them to seek safety in flight.

I remember once getting a bird's-eye view of a whole herd suddenly taking to flight as the leading cow reached a track which had been trodden by myself and some blacks two days earlier.

The extraordinary skill with which elephants draw conclusions from unfortunate experiences has been known for a long while. Even the cleverest trainer could not succeed in making an elephant mount again on a stage of which he had once broken through the boards. In the same way a wild elephant avoids for a lifetime a place where he has discovered a pit-hole.

It appears that in the Masai highlands several small herds are in the habit of grouping themselves together in larger ones about the month of October. But every herd keeps independent.

At this time, too, the herds which are composed of middle-aged bulls join these bands. The larger herds

also make a division of sexes; especially when the elephants settle down under the trees during the day.

Lately the herds in Masai-land, which have been so much thinned, have not been able to keep up so strictly the order and division into separate age-classes as when there was a good supply of elephants.

It is a much-debated question whether the old bulls which go about alone or in couples attach themselves at times to the herds for breeding purposes. Personally I do not believe this, but am of opinion that the stronger herd-bulls with tusks weighing about 50 lb. are those which are the principal propagators, whilst in most cases the quite old solitary bulls are more or less incapable specimens of their kind.

It is a remarkable fact that an elephant calf whose mother is dead is immediately adopted and cared for by other cows, but, of course, only if it is big enough to join in an escape. This fact, which I am positive of, testifies to the close social union in which the herds live and to their strongly developed family feeling.

The lactation period extends itself over several years, as is the case with rhinoceroses and hippopotamuses. As with the Indian elephant, the time of gestation lasts about twenty-two months. I do not think that the females are capable of conception before the age of fifteen years, while the males develop their generative power somewhat earlier. At twenty-five a male elephant has reached his prime, although he sometimes attains a very great age.

I repeatedly found small herds composed of what appeared to be very old females with sucklings and five

or six young calves of the most varied sizes. I am inclined to believe, in common with the natives, that the younger beasts are all brothers and sisters, and offspring of the old females, and, I believe also, that a female elephant under favourable circumstances is capable of conceiving every six or seven years.

Although one very seldom finds ticks in their skins, elephants are greatly given to rolling themselves in the mire, bestrewing themselves with sand and earth, and rubbing their skin against trees, the so-called "sign-post" trees. From this cause, like rhinoceroses, they are often variously coloured, according to the colour of the earth of the locality. In the highland woods, through which they wander nightly, one finds hundreds of trees against which they have rubbed their bodies. Such rubbing-places indicate the size of the animals. On July 23rd, 1903, I found such a mark 15 ft. high. Crooked trees are used by preference, so that the elephant can lean against them slanting-wise and with all his weight. If elephants come upon open places in the forest, or go away into the plains, they make use of the same strong trees over and over again, until the bark is completely worn away. Many gigantic trees bear witness to the fact of their having been thus visited nightly during the course of some hundred years.

The thirst for ivory has for many years been the cause of the formation of armed hordes in German East Africa. These hordes either pursue the elephants with powder and shot on their own account or are hired by native agents. They often travel through wide districts,

clearing the place entirely of elephants. They are exceptionally well armed with rifles, and are accustomed to hunt large elephants in bands of three or more. They hunt them in their customary refuges—in the dense jungle, and only fire when quite close. They take flight after a few shots, as the animal often makes a rush towards the dense clouds of smoke. Often they follow the wounded beasts for several days. Every rifleman marks his own particular shot with a peculiar sign in order that it may be ascertained who gave the death-wound.

These so-called "trustworthy Fundi," as they were euphemistically christened some years ago, know how to keep their secrets, and always give rosy reports to the authorities with regard to their doings. They always report upon a number of herds of which they know. As to the destruction of these herds, they are as innocent as new-born children! In reality they play a shameful part. Only he who tracks them for years is aware of their tricks and artifices. There is no doubt about the fact that they are exterminating the elephants in the same way as, in the middle of the last century, the musket-armed negro-traders were commissioned by white men to destroy every trace of elephant and rhinoceros. These hunters wear amulets, to which they trust for protection; and in firm belief in their magic spell they often approach elephants without fear. Naturally this gives them a certain advantage over the cautious European.

After killing a number of elephants (fortified always by their witchcraft) they give themselves out as qualified

hunters, and organise shooting expeditions, but keep in background, having learnt wisdom by unfortunate riences. It is noteworthy that in the neighbourhood especially known to me, they never dared to take any men when the hunt promised to be a very successful ne. They are accustomed on approaching the elephants to take off nearly every particle of clothing, and carefully rub the whole body, especially under the armpits, with earth. In this they follow the example of the prey they pursue. There is no doubt that the elephant and rhinoceros wallow in the mire, and put sand on their bodies, for the same reason that the Masai people rub themselves with ochre and grease, namely, to keep off rasites. These hunters possess a large store of knowledge about the habits of the animals they hunt, but it is exceedingly difficult to get them to disclose any of their secrets. This they will only do when one manages to be regarded as their colleague. Otherwise they prefer to give currency to the most incredible fables.

About the year 1896 the native "political agent" of the station at Moshi, who hailed from Kavirondo, and was named Schundi, unfortunately had the monopoly of the elephant-shooting in the Kilimanjaro. His people traversed the whole district in large bands. The less practised and trustworthy people of the company provided the caravans with wild game of all kinds, the best shots devoting themselves to the elephants. At some springs I found dozens and dozens of rhinoceroses, murdered by these "Makua." They also succeeded in destroying numbers of giraffes, much sought after on account of their

hides. The same reports were heard about other parts of the country at the same time. Happily these abuses have in a great measure been remedied by the wise restrictions instituted by the Governor, Count Götzen.

It is worthy of remark that the elephant, when at large, appears scarcely ever to lie down. If there are exceptions to this rule, I believe it to be those cases

WE HAD TO OVERTURN THE ELEPHANT IN ORDER TO REMOVE HIS SKIN

where the animals have been shot and are ill. Elephant-hunters have a superstition that whoever meets an elephant lying down will soon die. I cannot say if these conditions are the same in countries where the elephant is not so much sought after as on the Masai plains.

Pitfalls, formerly common in the Kilimanjaro district, but not so often met with nowadays, are often avoided with much skill by the elephant. Still, as they

are cunningly covered and well placed, they often fulfil their aim. These traps do more than anything else to drive away all manner of game, especially elephants.

The Wandorobo, especially the Wakamba, shoot the elephants with poisoned arrows. The wounded beasts have often to be followed for days. The animals are very seldom lost, as the natives are very clever at finding the dead bodies, guided by the vultures and marabous. Some Wandorobo races are wont to use poisoned spears, though only poisoned arrows are used in the neighbourhood of the Kilimanjaro. Twice whilst following herds which had just been chased by the Wakamba I have found broken arrow-shafts.

There can be no doubt that the African elephant can be tamed in the same way as his Indian cousin. Still, I agree with English authorities, that in Equatorial Africa such tamed elephants would be useless, as in the dry season there are no visible means of sustenance on the plains. In any case, the conditions are so totally different in the two countries that it is impossible to draw any conclusion from what is done in India as to the employment of the elephant in West Africa. The taming, in the hands of expert natives from India, ought to present no insuperable difficulties, although our keepers have observed that the Indian elephant is easier to handle than the African. Experiments of this kind, however, would need a great deal of capital, and would have to be undertaken speedily, in view of the rapid disappearance of the elephant.

What a change can come about in little more than

fifty years! Fifty years ago elephants and rhinoceroses were still to be found in the districts now called German South-West Africa; earlier, both animals were to be found in great numbers up to the coasts by Walfisch Bay.

"In those times," wrote the famous hunter W. Cotton Oswell: "Vardon was the most enthusiastic rhinoceros-hunter; he filled his waggon with horns as I did mine with ivory; he used to shoot four or five every day."

Those were the times when Oswell and others month after month and day after day decimated the elephant-herds in South Africa, and when the Boers penetrated farther and farther into the heart of the country and effected such a destruction of game as only can be realised by those who, like myself, have had opportunities of forming a mental picture of the condition of things in the primeval forests.

What happened fifty years ago in South Africa is now happening under the Equator; about that there is no doubt. Nowadays we unfortunately see black hunters in the German Cameroons slaughtering elephants with breech-loaders and with the sanction of the Government. We can but delay the work of annihilation; we cannot stop it. The day is not far distant when it will be asked: "*Quid novi ex Africâ?*" And the reply will be: "The last African elephant has been killed."

A DISTANT VIEW OF KILIMANJARO

X

Elephant-Hunting

FOR months I had been trying in vain to get some good photographs of elephants with my telephoto lens, and also to get hold of a young elephant alive. My many disappointments were more than made up for, however, one September morning. Troubled apparently by the poisoned arrows discharged at them by the Wakamba, a large herd of elephants had made their way down from the mountains and paid a visit during the night to the stream by my camp. They had destroyed the scares, fashioned out of sheets of white paper, which I had left on the water with a view to frightening the animals away to other drinking-places, where I could photograph them conveniently.

With the exception of lions, I had found that all animals fought shy of these scares, but in the bright moonlight they seem, on the contrary, to have attracted the elephants; for, to my astonishment, I found that my

nocturnal visitors had taken possession of them, pulled them to pieces, and stamped them under-foot in the mire. This bore out what I had often heard from native hunters about the aggressive character of the elephants of this part of Africa at night.

The herd had crossed and recrossed the stream several times and had then come up about three hundred yards towards the camp. Though I felt almost certain they must have gone back to the security of their mountains, I followed their tracks as usual, just to see what I could make of them. To my surprise I found, after about half an hour, that they had suddenly formed themselves in a more or less distinct line and set out in the direction of the desert.

This suggested two possibilities. Either, after drinking their fill, they had started for the next watering-place, two days' journey away—and this seemed to me the more likely alternative—or else they were taking up their quarters for a day or two on the dry plains, so as to keep out of reach of the Wakamba and their arrows. In either case I had to look sharp. Returning to the camp, I got ready for the march in a very few minutes, and set out with some of my best men and about forty carriers. I saw that they brought with them in their calabashes as much water as they could carry and a good supply of rope. It was clear from the tracks that there were young elephants in the herd, and I made up my mind to direct all my efforts towards capturing one of these, though I fully realised the danger involved in the attempt, considering the number of animals I had to deal with, and

that I would probably have to conduct my operations out in the open. We reckoned the herd as numbering about twenty in all, of which a number were very large females. The bulls were distinguishable by the long and comparatively narrow shape of their hind-feet.

Before us, in any case, was a march of several hours. It was worth while to make every effort to catch up the elephants before sunset, probably resting under some cluster of trees upon the velt. We should then have to spend the night out on the desert—without any fresh supply of water, of course—returning next day to camp.

After following the tracks for about an hour, we found that there must be more than twenty elephants in the herd, for here and there, when they had come to difficult places—certain dried-up river-beds, for instance—they had made their way out of them one by one, some to the right, others to the left, and this enabled us to reckon up their numbers more precisely. Here and there as we went I found a bundle of chewed bowstring hemp, out of which the sap had been sucked, and a piece of chewed bark torn from a tree by the elephants' tusks. But the herd had evidently made no halt, and had continued on their way without loitering to eat.

The sun was scorching, and it was necessary to put out all our energy, and to place our trustiest men in the rear in order to keep the long column together at the rate at which we had to go. There was something very fascinating in this almost silent march of ours over the glistening plains hour after hour, our eyes fixed upon

the tracks, a whispered word exchanged between us now and again. Though he may not count upon getting at his quarry for six or eight hours, yet every hour in such cases as this intensifies the hunter's suspense. Perhaps the elephants, feeling themselves safe, will have stopped to feed. In that case it will be possible to get at them by midday! There are always such possibilities. In

ORGEICH, MY TAXIDERMIST, AND ALL THE CARRIERS AT WORK PREPARING AN ELEPHANT-SKIN

our case, however, this did not happen, and the herd kept on its way. Hour after hour goes by, the arid, barren desert, without a sign of life on it, unrolling itself monotonously before us in its unchanging line—hill after hill rising before us in the distance only to disappear again behind us as we move on and on. The dreariness and loneliness of Nyika combine with the intense heat to sap the energy of even the most strenuous; but we

move forward like automatous, adding thousand after thousand of footsteps to the thousands we have left behind.

Suddenly our eyes note a black speck rising in the vicinity of a group of lofty acacia-trees. My excellent field-glass discloses to us that it is a bull giraffe which has taken up this solitary position. Nearer and nearer we come to him, until, eyeing us curiously and anxiously, he takes to flight and ambles away unmolested.

We have now to get over an unusually deep river-bed, dried up since the rains. Reaching the opposite bank at the head of my men, I suddenly espy in front of me, about sixty steps away, a dark mass under a rather tall salvadora-bush. At once I sink noiselessly on my knee, my men doing the like, acting in unison like clockwork. At the same moment a number of twittering rhinoceros-birds fly away from the dark mass to a bush hard by, while the mass itself, in which we now recognise a rhinoceros, quickly assumes a sitting position, and a young rhinoceros appears suddenly beside it, as though out of the ground. At a sign from me, my camera, always kept in readiness, passes into my hands from the hands of the bearer told off to carry it. Unluckily, just at this moment the sun goes behind some clouds. After a few minutes of anxious suspense, however, I am able to take a photograph, and then my rifle rings out like the crack of a whip; it is worth while to get hold alive of that much-sought-after prey, a young living rhinoceros. While the mother goes raging about in a circle, snorting and spitting, in a cloud of dust, looking for its foe, I get

my chance of laying her low with a second bullet, giving the word at the same moment in a low voice to my men to spread themselves out, on hands and feet, over the ground in order to catch the young one. But the little animal proves itself too strong and dangerous. It makes for the men nearest to it, and they take to their heels. My own efforts fail too, and off it goes with its tail raised high in the air.

Much disappointed at seeing the little beast disappear over the velt, I find myself wishing again for a good horse—a very vain wish in these regions—so that I could go after it and catch it. Failing a horse, there is no way of getting hold of it, so, leaving three men behind us to convey to camp the big horns of the old rhinoceros, we must proceed again on our chase after the elephants.

Hour after hour now passes without further break. At last, towards four o'clock in the afternoon, all hope is almost lost, and I begin to feel sure that the elephants, which have kept in a bee-line all the time, have gone right ahead to the next drinking-place.

We halt for a brief space. The countenances of my men denote exhaustion and discouragement. Their thoughts are of the fleshpots of the well-watered camp. As so often happens, however, their simple dispositions are untroubled by some of the circumstances of the situation that are most vexing to me. We hold a small "council of war," with the result that we decide to go on for a few more hours and then spend the night upon the velt.

I notice now two small owls of a rare species (*Pisorhina capensis*) not yet included in my ornithological collection, and I am tempted to bring them down with my flintlock, which I have always handy. By this time I have myself given up all hope of getting at the elephants—we have a long streak of the rising country ahead of us in view. This calls down on me the reproach of my trusty old Almasi, who regards the owl as a bird of evil omen, the killing of which will bring us misfortune. And the prophecy—though I laughed at it at the time—came very near fulfilment.

In the course of the next half-hour my chief guide and I became aware of a strong scent of elephants, and almost immediately afterwards we espied, about a mile and a quarter ahead of us, on a hill, clearly defined in the bright tropical light, two dark groups of elephants quietly at rest. It was again a case for quick action.

Most of my men would have to remain behind while the three most trusty of them and two Masai and myself went on near the elephants. Much to my anxiety, the very slight breeze until then blowing behind us became stronger, and I had almost given up hope as I lay concealed in the grass, when, suddenly changing round, it began to come towards us from the elephants.

The plains were here very bare, with little on them except withered acacias. I succeeded, however, in getting to within two hundred paces of the elephants, and in taking several photographs of them at this distance. I had to exercise all my will-power to hold the camera steady, but

I did so, and although the light was not very favourable, the results were a success.

My field-glass showed me that the elephants were ranged in two great groups—males one side, females the other ; pressing close up to their mothers were three young elephants, keeping as quiet as the old ones. The only movement they all made was a flapping to and fro of

THE ENTIRE HERD OF ELEPHANTS, OVER TWENTY IN ALL, HAD PACKED THEMSELVES TOGETHER UNDER THE MIMOSA-TREES. ONE STRONG BULL FACED ME, DISPLAYING HIS LONG WHITE TUSKS

their heavy ears. Most of them stood with their heads turned towards me—in the direction of the wind therefore, and thus protecting themselves from the wind as much as possible. The absolute stillness of the huge mass of monsters had something about it at once impressive and uncanny.

The nature of the ground seemed to forbid all hope

of photographing the elephants again in the act of taking flight, so I packed away my camera carefully in its case in expectation of exciting events to come. Then I took up my rifle and, as a nearer approach could not be made for lack of cover, shot the largest bull elephant that was nearest to me high up on the trunk. I had fired kneeling. The elephant showed that he was hit by taking three or four steps forward, swinging up his trunk, and moving his great ears about like a fan. Simultaneously the whole mass of elephants began to show signs of animation. I was reminded of the disturbing of a bee-hive or of an ants' nest by the way in which, with surprising quickness, they all, old and young, swarmed out of their resting-place, spreading out their ears and swinging or rolling up their trunks, as they searched all round them for their enemy. From my kneeling position (my men were lying flat on the ground beside me) I now sent two more bullets at the elephant I had already shot; then the whole herd, led by an old cow with trunk rolled up, set off suddenly in full flight, as though at a word of command, and not in the direction of the velt, as I had expected, or for the hills behind them, but sideways to the right.

It was a real delight—the grand spectacle of these five-and-twenty elephants a hundred and fifty yards off charging past me! On they went with extraordinary speed—almost without a sound, in spite of their tremendous weight. The wounded bull elephant was a little to one side, nearer me, and jumping up I was able to get another bullet into his shoulder. My shot, however, had this result, that the whole herd suddenly stopped, with the

young ones in the middle, and stood still a moment looking round for their hidden foe.

Here I should recall the fact that, as I have mentioned before, most of the older elephants in East Africa have in one way or another made acquaintance with powder and shot. I had been thoughtless enough to jump up, the wind veered round again that moment a little, and the

MIMOSA-TREES BROKEN DOWN BY ELEPHANTS

elephants had spotted me. In another second the whole herd, led by two old cows, were coming full tilt in my direction. I came to the conclusion at once that I was done for! However, with a rapidity I find it hard now to realise, I fired off six shots with my second rifle at the elephants leading, and then flew to one side; my men, who had already started off, and who had called to me to do so, going in the same direction. I recall now

quite clearly that I experienced at this moment no feeling of anxiety, but merely one of intense suspense and curiosity as to what my fate would be. A thousand thoughts seemed to flash simultaneously through my mind and then make way for a sort of apathetic sense of resignation, coupled with the reflection that the elephants were well within their rights in wreaking vengeance upon their attackers!

In front of me ran my men, who had thrown everything aside, and as I ran, clasping my rifle in my right hand, I felt instinctively for cartridges in the left-hand pocket of my breeches, saying to myself as I did so that a few more bullets more or less counted for nothing against so great a number of animals.

We had fled to one side, as I have mentioned, because this is the way to escape a charging elephant, owing to his defective eyesight. Just as I felt that they must be upon us, I heard in the midst of the muffled thunder of their stampede a terrible trumpeting, and in the same moment one of my men, now far ahead, called out to me: "They are running away, master!"

Turning round I find that the bull I shot has fallen to the ground, and that all the others have taken flight to the side in the direction in which they had originally started. Seeing this, my best men hurry up, and I succeed in getting a bullet into the shoulder of a very large but apparently ailing cow, which is bringing up the rear—for, there being now no longer any danger of death, my anxiety to get hold of a young elephant has come back to me. Before I could reload, the entire herd

was out of range, and I could but marvel at the rate they went at. I turned now to the fallen bull, not yet quite dead. In a few moments my camera was in position, and I was able to take several photographs of the animal. There was now no time to lose. While I saw that all the others of my party came up, I gave orders for the head of the elephant to be skinned and his teeth got out ; and then chose six of the strongest of my men to continue the hunt with me. The others I ordered to remain near the dead elephant and next day to carry the skin of its head and its teeth to camp, regretting much that, owing to the distance and the scanty number of my men, it was not practicable to prepare the entire skin.

The small amount of water now available I required for my six followers, and I set out a few moments later—somewhat too hurriedly, for all the ropes were left behind, an oversight we had to pay dearly for the same day.

We followed now on the new elephant-tracks. Both the cows that had been shot bled profusely, but kept on their way with the others, and after pursuing them for about an hour and a half I came upon them all again shortly before sunset, grouped in an imposing mass, the males and females apart as before, underneath acacia-trees, on a part of the velt offering practically no cover. Motionless, but for the swinging of their ears to and fro, they stood there—a great solid, impressive mass, coloured a reddish-brown by their mud-baths and sand-baths. In the glow of the sunset they presented just the same picture they had in the morning.

I was able to get to within 150 paces of them ; on this

occasion, however, I had to exert all my authority to prevent my carriers from running away. I, too, lost nerve for a single moment, but recovered myself, and, after I had examined the animals individually with my glass, I found that two of the largest cows, which had each a calf and which stood out by themselves, had been badly hit. I gave them another bullet each, but this time from a lying position, taught wisdom by my experience in the morning. By a violent flapping of their ears they gave signs that the shots had grazed their shoulders. To my great satisfaction in one respect, but much to my disappointment in another, my shots had the result that the bulk of the herd took flight to the left, while the two wounded cows, without making any other sign, made off to the right. At a very slow, shambling sort of trot they disappeared in a depression of the ground, followed by their young ones. After the rest of the herd, including three other young ones, had got out of sight I followed the wounded cows with my six men, now very tired, and came upon them again ten minutes later, taking note that one of them was in a very bad way and that the young ones, both close on four years old, were following the other cow ahead.

After firing nearly twenty shots without result from behind I succeeded in bringing down first the hindmost cow by a shot in the ear at six paces, and then the one in front, which had the young ones with it, and which stood still for a few moments undecided, bleeding heavily.

As usual, the young animals—both of them bulls,

between five and six feet in height, and with tusks already of the length of a hand—remained close to their dead mothers. We at once set about trying to catch them; but the bigger of the two went for us so fiercely and alarmingly that I was obliged to shoot it, just as it had thrown one of my men on the ground, and was about to gore him to death with its tusks. I killed it with a shot in the head at a distance of only a few feet. Then

ANOTHER INSTANCE OF A BROKEN MIMOSA-TREE

I tackled the second one myself—a very rash proceeding—and in a few seconds I managed, thanks to my size, in securing a hold of it before it became dangerous like the other, throwing one arm round its neck and grasping one of its ears with the other hand, yelling out at the same moment to my men to fasten its legs with ropes. Looking back on it all to-day, I marvel that I escaped from the encounter with my life.

The young animal, with its greater strength, was able to drag me about all over the place; but I clung tight to him, and, with my considerable weight of 180 pounds, I succeeded in holding on to him for over ten minutes. My men seized hold of his tail; but I could not get them to hold on to his other ear, and it only now came home to me that all the ropes had been left behind, and that there was no possibility therefore of tying the animal's legs, as I had done with another young elephant in the year 1900. After about a quarter of an hour my strength gave way and I let go, and I literally sank down on the ground in a state of hopeless collapse, utterly blown and unable to utter a sound, my tongue cleaving to the roof of my mouth.

My men also lay all round me, panting. One is glad to have such moments over and done with! All our trouble and exertions were in vain. We made efforts to tie his legs with bits of our clothing, but this did not succeed, as he got excited in the process, changing his mood suddenly as elephants do, and assuming the offensive vigorously. My men were not to be induced to go near him now, so, as nothing would have induced me to shoot him, I was relieved presently when he took flight in the direction in which the herd had disappeared.

Not to weary the reader further, I will just add that, tired to death and utterly discouraged, we now lit a fire in the neighbourhood, and got together some dry wood in the dust to keep it burning.

But our torturing thirst would not let us sleep. It became so terrible that at last we had to make our way

in the darkness to the body of the last-killed elephant, in order to open its stomach and drink the indescribably stinking liquid inside. Then we lay down again in our camp, suddenly to be awakened at about nine o'clock by my experienced old "Fundi" springing up and giving out the cry, in low tones, "Tembo, Bwana! Tembo!"

And, sure enough, there were the twenty-one remaining

THE ELEPHANTS, OVER TWENTY IN NUMBER, HAD MADE THEIR WAY ACROSS THE BED OF A STREAM, NOW DRIED UP

elephants, looking like monstrous ghosts in the moonlight, moving past us with their noiseless trot in the direction of the hills they had left!

The elephants were clearly striving to make their way as quickly as possible to their mountain thickets. My men had sprung up at once, and exerted themselves as quick as lightning to extinguish our small fire by tearing out the burning pieces of wood, knowing by experience

that elephants, especially when they have been excited, are incited to attack by the sight of a fire.

I myself had in mind a case of this kind. A number of large elephants had made for a camp-fire, and for nearly a quarter of an hour trampled over it, and over everything they found near it belonging to the black hunters. The six men who were encamped beside it found safety in flight.

Naturally we spent some minutes of keen anxiety as the elephants passed—anxiety due in large measure to the strange circumstance that the elephants should have chosen a route so near our camp. But the danger passed, and the silent, illimitable velt lay steeped in the moonlight. I took the first hours of the watch, and then, after my men had rested, took my turn of sleep. When I woke up suddenly at dawn, I found the camp-fire almost extinguished and the watch snoring; it was their snoring that had awakened me. So completely do the results of extreme physical exertion prevail over all thought or fear of wild animals!

Now came a very difficult and wearying seven-hours' march over broken ground full of holes made by rodents, to our distant camp, in scorching sunlight. I am doubtful whether we should ever have reached it but for our good fortune in coming upon some water after long digging in a dried-up river-bed. It is not easy to give an idea of the effect such experiences have upon the men who live through them.

Arrived safely in camp, I despatched some men next day to bring back the teeth of both the cow elephants last

killed. The larger of the two had only one tusk, which weighed 28 lb.—a somewhat considerable weight for a cow—and which was already far gone through decay. The elephant would soon have lost this tusk also. My men found in the animal two iron bullets such as natives use, one of which was embedded in the outer coating of its stomach—an indication of the great vitality of elephants.

I long experienced very keen regret at the failure of this hunt. I had come so near my desired object of bringing to Europe the first East African elephant from German or British East Africa—an undertaking no one has yet achieved, despite the construction since then of the great Uganda Railway in the heart of the higher regions of the Nile.

This indicates the difficulty of all such enterprises in a country in which the presence of the tsetse fly and other such hindrances prevent the use of camels, horses, or mounts of any kind.

Not a single young elephant has been brought home to our Zoological Gardens from German East Africa. The elephant brought home by Herr Dominik, Ober-lieutenant in the colonial police, which had been captured by a large number of natives, is from the Cameroons.

With the help of Askaris who were at his disposal, and of some elephant-hunters, he succeeded in killing a herd of elephants which had been hemmed in and watched day and night, and to capture all the young animals—very small specimens. Most of them died, and only one young

bull reached Berlin, where he has been in the Zoological Gardens for some years. Herr Dominik has given a lucid account of his hunt in his book entitled *The Cameroons*, and it was not without a certain feeling of envy that I read those interesting pages.

How well fitted out these colonial police officers always are for the carrying through of such an expedition, and how scanty by comparison the resources of a private individual! It is to be hoped that the next attempt of this kind may be successful, but there seems little prospect of this just at present.

But what I regretted, perhaps even more than my failure to capture the young animal, was my having been unable to take a photograph of those five-and-twenty elephants rushing towards me. Willingly would I have given a finger of my hand to have been able to take a really good picture of those mighty, infuriated animals in the middle of their onrush.

In December 1900 I had a somewhat similar experience. After about eight days of fruitless endeavour upon a part of the velt which was already covered with green, I came upon a small herd of elephants, out of which, after killing his mother, I managed to capture a small bull about a year and a half old. It was only with the greatest trouble that I secured him—he had no tusks, fortunately—by getting right in front of him and overthrowing him, and thus giving my Wandorobo an opportunity of fastening his hind-legs with thongs of leather. With immense difficulty we got the animal back to camp; but for lack of enough milk I did not succeed in keeping

him alive, though he seemed to get on all right on my treatment of him for the first few days.

He was on the friendliest terms with me within forty-eight hours, and used to caress my beard and face with his little trunk in the drollest way. It was a thousand pities that the animal soon died. Thus ended both my efforts.

Another very serious mishap fell to my lot quite

ELEPHANT SKULL AND BONES

unexpectedly in November 1903. My caravan was making a long and difficult march from hill to hill towards the next drinking-place, and I, as usual, was at the head of it. After we had been about four hours afoot, I brought down two female antelopes. While some of my men were busy cutting them up, having put down their burden (many of them, however, were still straggling behind), I went

back a hundred paces or so, and took up my position upon a rock, with a black beside me carrying my rifle.

Lost in thought and humming a tune to myself, I suddenly seemed to hear something approaching me from behind—I couldn't hear well, however, as there was a strong wind blowing from the opposite direction. I turned round and saw, thirty paces off, a huge bull elephant advancing towards me at full trot, in the uncannily quick and noiseless fashion of his kind. I rolled over quickly to one side, as did also my man, who now observed the elephant for the first time. I gripped my rifle, saying to myself, however, that it was too late to think of shooting, and that next moment we should be crushed to death.

I also realised suddenly that my rifle was loaded with lead-headed steel-bullets, which are quite useless with a bull elephant. In this terrifying moment, the elephant, taking fright apparently at our sudden appearance almost from under his feet, gave out a resounding snort, and shaking his huge ears, swerved off to the left, almost touching us as he passed.

Up we sprang now, and unloading my rifle with all possible haste I reloaded, and succeeded in getting two shots into the animal's shoulder from behind. After following it for half an hour and noting from the way in which his tracks were narrowing that he must have been badly wounded, we found him standing under some acacia-trees, and I was able to bring him down with two effective shots in the head before he could make any attempt to get at me.

C. G. Schillings, phot.

THE HUGE ELEPHANT FELL DEAD

It turned out that a small herd to which this elephant belonged had come down to the now sodden velt, and having got wind of my people had come upon the advanced guard of the long-drawn-out caravan. Thus it happened that by a most curious chance I came upon the bull in a spot where I should never have expected to find an elephant at that time of year.

Less perilous perhaps, yet full of excitement in its own way, was a hunt in the course of which I came upon a herd in a thicket in a ravine on the side of the Ngaptu Mountain. I had been going after elephants for weeks on the north side of the mountain fruitlessly. One day I had been unable to resist the temptation of shooting a rare kind of thrush (*Turdus decksui*) on the top of the mountain. The noise of my shot resounding through the ravine was answered almost at once by the loud trumpeting of an elephant.

On another day I was making a nine-hours' march round one part of the mountain, and although I was suffering at the time rather badly from dysentery, I pressed forward to the place which, as I had found out accidentally, the elephants frequented. I thought it very doubtful whether they were still to be found there, but nowadays one must lose no chance of any kind of getting at elephants in those regions, even when journeys of days are entailed. A more or less steady wind enabled me to approach the herd, and at last I found myself only a few paces away from two fairly large bulls. They were standing, however, in such an unfavourable position that I could not make up my mind to shoot. After

a wait of about three-quarters of an hour, however, they moved suddenly and gave me my opportunity, and I brought down one of them with a shot between ear and eye, and the other, just as he made for me, with two shots through the shoulder into the heart.

I found afterwards that this herd, which consisted of about a dozen elephants, had sought refuge in the thicket on the mountain, having been startled by my shot at the thrush, and that they had been keeping very quiet up there, making no noise whatever beyond what was caused by the munching of quite small twigs. Thus, waiting one's chance in the neighbourhood of a herd of elephants, the sportsman lives in a continual state of suspense. One needs to remain absolutely quiet and to exercise the utmost patience in such circumstances, ready always to act promptly and with energy when the moment comes.

Generally speaking I am in favour of small-calibre rifles, on account of their precision and penetrating force; but for elephants and rhinceroses I would recommend the English ·577 express calibre with steel bullets, or else an 8- or 4-calibre elephant-rifle when the shooting will be at close range, as is likely in thickly wooded regions. In this I agree with most experienced sportsmen, and I would recommend the new-comer especially to use a heavy and safe gun, although they have some great disadvantages, such as their weight and unwieldiness and their uncertainty of aim except at quite short range, especially in the case of the last-mentioned large-calibre rifles. Moreover they kick so heavily that only a strong man

can use them, and with the black powder which is used they make tremendous clouds of smoke. The elephant often takes these clouds of smoke for the enemy, but this may be a source of safety to the sportsman, for he can slip away to one side, leaving the infuriated animal to make for the smoke.

In hunting African elephants there are in practice

AFTER MUCH SCRAPING AWAY IN THE BED OF A DRIED-UP STREAM, WE CAME UPON SOME WATER

only two correct shots. First, the shot from the side between ear and eye, so as to get into the brain; secondly, the shot lodged in the shoulder, also from the side. From in front you can get at the brain only by a shot high up on the trunk. I would hold out a warning, however, against shots which go too high up on the great long protuberances of the elephant's head, as these are likely to prove very dangerous to the sportsman.

A large elephant may sometimes be brought down by another shot, as for instance a shot which breaks a bone of the leg, but this is only possible at very close range with a rifle of very heavy calibre. The most experienced hunters are agreed that the smack of a heavy-calibre bullet is more apt to make an elephant take to flight when not mortally wounded than is the stab of the small calibre, though this may be more deadly in its after-effect.

But in the hunting of big game of this kind, above all in the case of elephants, luck plays a very conspicuous *rôle*. In several cases the deadly effect of shots I myself have fired has only shown itself when the animals have almost come near enough to kill me. Many have been the elephant-hunters who have been killed by the Tembo they themselves have been hunting!

The more one comes into touch with African elephants the more one is on one's guard. The hunter can never know what an elephant may not be up to the next moment —a fact with which trainers and keepers of Zoological Gardens also have to reckon.

I shall never forget how for days together I waited on the top of a hill watching elephants, and waiting in vain for the sunshine without which I could not get good photographs of them. As soon as I had succeeded in this the moment seemed at last to have come when I might kill the two bull elephants in question. I had had several tempting chances already that I had resisted. Leaving the hills, accompanied by some of the most resolute of my men, I crept down by some narrow

rhinoceros-paths into the sodden jungle, which I reached in about three-quarters of an hour.

After crossing a great number of deep ravines, which we did with much difficulty, our clothes almost torn off us and covered all over with mud, we succeeded in getting near the bulls, which were slowly making for the thickets up above. Coming upon the tracks of one of these, we followed them breathlessly, expecting every moment to come upon him. At last I saw him standing in the shade of some tall trees. But so dense was the jungle that I could not make out very distinctly the reddish grey body of the animal at the distance of fifty paces or so and could not count upon hitting him effectively. All torn and scratched by the thorns, there I waited for several anxious minutes in suspense. Presently the huge animal disappears to the left, and, followed by my two men with my reserve rifles, I make after him to the right, hoping in this way to come upon him suddenly. In front of him lies a deep ravine, through which we hasten. As we emerge from it on the other side we hear a gentle rustling.

"Tembo, bwana!" ("The elephant, master") whispers one of my men.

"Hapana! Nyama ndogo!" ("No, small animal!") I answer.

That moment the big bushes growing amid the tall grass (more than ten feet high) went asunder right and left, the slender trunks splitting and cracking as they came down upon us and forced us on to the ground, and in another second the elephant rushed past us barely a

foot away, intent on flight, and most fortunately paying us no attention.

Count Thiele-Winckler tells me of an exactly similar incident which occurred in India.

Moments such as these are hard to realise in safety and comfort here at home. Brief though they be, they live ever afterwards in the memory, and have a charm all their own. To appreciate their delight to the full a man must be able to enter into the spirit of the surroundings, and must be sensitive to the marvellous and majestic scenery in which they are met with. But not the most skilled of pens could succeed in bringing home their magical fascination to the mind of the reader who has not himself experienced anything of the kind. Even the man who has gone through them can only recall them in their details when his memory is at its best.

I am apt to look at the elephants in the Zoological Gardens very differently now, almost with a feeling of awe and reverence, and I feel ashamed of the foolish gapers who seek to exercise their wit at the expense of the caged giant. How they would take to their heels if they met him in the wilderness and he bore down upon them!

Two days later, to my great surprise, both the bull elephants had sought their favourite haunt again, but at sunset they vanished just as heavy masses of clouds began to come down over the wood, with a wonderfully impressive effect. They went in the direction of a thick girdle of trees. The wind was favourable.

With my feet in indiarubber-soled shoes, and accompanied on this occasion (quite exceptionally) by my European taxidermist, Orgeich, in addition to a few of my men, I took up the animal's pursuit, hoping to get possession of its skin, whole or entire, for preparation for a specimen. Bathed in sweat, owing to the oppressive heat of the thicket, after about three-quarters of an hour

THE TUSKS OF BOTH THE ELEPHANTS WEIGHED TOGETHER ONLY ABOUT 120 ENGLISH POUNDS

we lost the tracks for a few minutes, confused with those of other animals that must have passed this way during the night. However, we found them again, and five minutes later we came to a deep ravine with a pool of mud at the bottom of it. To my dismay I saw both elephants emerge from this and disappear into the dense thicket on the opposite slope, about thirty paces away, and as they forced their way through it I could see the

trees and bushes quivering this way and that. It was heart-breaking! One instant sooner and both elephants would have been lying dead in the mud. Animals with tusks weighing two hundred pounds! Elephants such as have hardly fallen to any European hunter in the whole length and breadth of Africa!

The wind now going down, and the trees ceasing to quiver, I slid down the ravine and made my way up the opposite slope, all covered with mud and slime from the branches through which the elephants had forced their way, and got up on the top just as they entered the thicket, through which they would probably continue their flight for some hours.

This supposition was only too well founded, as I discovered after an indescribably long pursuit without results. Hardly ever in all my life had I been so covered in slime and so unrecognisable as after this incident. And the slime smelt of elephant to an unimaginable degree!

Forcing my way along in the undergrowth, with my arms in front of me to protect my face, I got into such a condition of dirt and breathlessness and utter disgust over my failure as I had only once in my life experienced before. That was at Münster, in the "Old Westphalian" steeplechase—that most delightful of all German steeplechases—as they used to be run over the old difficult course, and when knee-deep in mud I had almost won, yet lost!

I leave it to the reader to imagine my feelings. For weeks I had been after these elephants in the hope of photographing them. Then came this long pursuit which

had failed so wretchedly! For now both the animals had taken themselves off for ever so long.

On one other occasion I succeeded in getting near some huge bull elephants in the bush. I had seen them from a hill. I stationed some men there, whom I could discern from time to time through my field-glasses, and who guided my steps by waving a small white cloth in

THE YOUNG ELEPHANT DRAGGED US HITHER AND THITHER BETWEEN THE BODIES OF THE OLD ANIMALS. THEN, AT LAST, IT MADE UP ITS MIND TO FOLLOW US TO THE CAMP, WHICH WAS FIVE HOURS' MARCH AWAY

the direction the elephants were taking in the thicket. After endless difficulties at last I got near them. In another moment I must see them. To my delight there were here some small open spaces in the thicket. But there was yet another gorge to get over.

Suddenly a number of large doves (*Columba arquatrix*), very similar to our own ringdoves, clattered off from

the shady tops of some vangueria-bushes. As though spell-bound, we remained where we stood, breathless. We knew that the elephants would have been put on their guard by the noise. Twenty more paces to the left, and we must be able to see over the next bit of open ground. In front of me, three or four yards ahead, is the trunk of a dead tree. An active native glides ahead to it with me behind him, and next moment makes a sign to me that the elephants are in front. Quick as lightning he slips aside and lets me take his place, as I can only see them from this spot.

There they are, sure enough, a bull right in front of me, with tusks, weighing 180 lb. or 190 lb. apiece, almost crossing each other, and beside him another bull with his back turned towards me. Unable to shoot them as they stand, I slip down from the tree-trunk and try cautiously to make a way for myself through the adjacent bushes; but there is a sudden crashing, and the elephants are gone. Breaking away in different directions, they come together soon, and for five hours we follow in their track without seeing them again. Our pursuit of them has this result only, that our legs were badly stung by nettles and other such growths, often met with in these shady spots. Again all our trouble went for nothing.

On one occasion my companions came in for very unfortunate experiences while we were in pursuit of a big herd of elephants. Starting with only my most trustworthy followers, loaded only with ropes, axes, and other light utensils, each man carrying burdens of only 6 lb.

or 8 lb. weight, I had set out over a waterless region of the velt. They had all drunk their fill before starting, and taken water with them in big vessels. In order to come up with the herd as soon as possible we had to go at a quick pace. The ass I had at one time used for riding had long ago succumbed to the stings of tsetse flies, so I was afoot myself. The heat became so terrible,

A CURIOUS TRIO—TWO BULL ELEPHANTS AND A BULL GIRAFFE. THE LATTER MAY BE SEEN HIGH UP ON THE LEFT OF THE PHOTO, WHICH WAS TAKEN AT A DISTANCE OF ABOUT 450 YARDS

however (it was in the month of November), that at four in the afternoon we had to give up the pursuit in order to get back to the water, as several of my men were quite knocked up. Two of them refused to move, and wanted, in the state of apathy into which they had got, to remain lying down where they were. I had to drive them on in front of me; but even so I managed to get only one

of them to our destination by the time darkness came on. The other remained lying out on the velt.

With difficulty we got to the water late in the night, chiefly by dint of setting fire to the dried-up velt several times on the way, and thus managing to see where we were going. Next morning, when succour was sent to the man left behind, it arrived too late. The unfortunate fellow had been killed by rhinoceroses during the night, and then been entirely torn to pieces by lions. So we gathered from their tracks. His body lay on a deeply trodden rhinoceros-path.

It should be borne in mind that at this time all my carriers were good experienced men, carefully selected. In spite of this, here was a mishap which it was quite impossible for me to ward off. On other occasions it has often happened that men from my caravan, having lost their way, have had to sleep out in the open, either up in trees or upon the ground, but without coming to any harm.

No sportsman who has hunted the elephant much in Africa has got through without some serious misadventures; many have been trampled upon and have paid for their boldness with their lives.

The hunting of the African elephant, when undertaken by oneself and under sportsman-like conditions, is an enterprise to which in the long run only a few men are equal. Many elephants have been killed—not in this way, but with the help of the Askaris. I have seen photographs representing a number of young elephants—quite small, some of them—slaughtered in this way, with a group

of the sportsmen in the midst, thus perpetuating their valour. Such sportsmen, however, can have no notion of the wonderful experience of the man who hunts alone.

The natives who take part in the hunt are often of the belief that after you have killed fifteen elephants successfully, luck turns against you. From this on they prefer to devote themselves to the making of elephant-charms, and let others hunt in their place. I believe they are not far wrong.

THE PREPARATION OF THIS ELEPHANT-SKULL, AND THE HIDE OF THE BEAST, LASTED A WEEK

VIEW ON THE NJIRI SWAMPS DURING THE INUNDATIONS

XI

Rhinoceroses

WHEN you have spent a year travelling over Masai-Nyika, and have thus seen for yourself the umber of rhinoceroses still existing in that region, you e able to form some notion of the extent to which elephants must have flourished on its plains and in its forests before the days when they began to be hunted systematically by traders. Rhinoceroses did not offer the traders an adequate equivalent in their horns for the trouble and danger of hunting them, so they were not much troubled about until recently, when the supply of elephants began to run short. It is only during the last few years that their numbers have been decimated.

In the course of the year I spent there I saw about six hundred rhinoceroses with my own eyes, and found the tracks of thousands. It is astonishing how numerous they are in this region. Travellers who merely pass through the country by the caravan-routes would marvel if in the dry weather they found themselves on the top of a hill 7,000 feet high, and could see the huge crowds

C. G. Schillings, phot.

AS THE WIND WAS COMING FROM THE HILL, AND I'KNEW I COULD COUNT UPON ITS NOT CHANGING AT THAT HOUR OF THE DAY, I WAS ABLE TO GET WITHIN FIFTEEN PACES OF THE RHINOCEROSES

C. G. Schillings, phot.

of these animals in their special haunts. An idea of their numbers can best be got from the records of certain well-known travellers.

In the course of the famous exploring expedition of Count Teleki and Herr von Höhnel, which led to the discovery of Lake Rudolph and Lake Stephanie, these sportsmen killed 99 rhinoceroses, the flesh of which had to serve exclusively as food for their men.

According to trustworthy accounts Dr. Kolb killed 150 rhinoceroses before a "faru" got at him and killed him. Herr von Bastineller, who accompanied him for a long time, killed 140. Herr von Eltz, the first commandant of the Moshi fort, killed about 60 in the region lying between Moshi and Kahe. In recent years I have been told by colonial police officers of records which have beaten these. A number of English sportsmen have also brought down great numbers. These striking figures are more eloquent than long disquisitions. They give some notion of the immense numbers of rhinoceroses there are in German East Africa, and forbid any attempt at prophecy as to when the species will be exterminated.

It is a curious thing about rhinoceroses that they often break into the midst of passing caravans, causing much alarm and practically inciting the travellers to shoot them down. What with the perfection of our modern rifles, and the ample target provided by their own huge bodies, they are apt in these cases to rush to their own destruction. Without venturing upon a more precise forecast we may perhaps conclude that, if the white rhinoceros was wiped

out in South Africa in the course of a few decades by comparatively primitive weapons, we ought certainly to see the extinction of the black rhinoceros in a much shorter time with the help of the small-calibre long-range rifle of to-day.

Hunting the rhinoceros, as I understand it, when it is carried out by the sportsman alone and in a sportsman-like manner, must always be one of the most dangerous sports possible. It is difficult to decide whether it is most dangerous to hunt the lion, leopard, buffalo, elephant, or rhinoceros. Everything depends on the circumstances and surroundings in which these animals are encountered. Even when armed with the most trustworthy weapons, stalking the African rhinoceros must always be an extremely dangerous undertaking, if it is done, as in my case, alone and unaccompanied by other "guns." The English traveller Thomson very graphically describes the feelings of a hunter when he comes upon rhinoceroses in the grass, and knows that his life depends entirely on his skill. It is a puzzle to me how any one can assert that he has jumped calmly to one side when charged by a rhinoceros, and that he has then given it the well-known death-shot through the shoulder. I can say with confidence, from my own experience, that this is absolutely impossible. A rhinoceros that was really charging down on a man would get at his opponent under any circumstances and spit him on his horns.

If this does not happen, either the animal has been killed just at the last moment, or the hunter has managed to climb a tree, a white-ant hill, or a rock, or else the

animal had not really intended to charge but only to run away, and had unintentionally come in the direction of the hunter!

In the great expedition which I joined in 1896, not a single Askari or armed native ever accompanied the hunt. In this particular the natives were under strict supervision. I treated my own people in 1899-1900

REMAINS OF A RHINOCEROS

without exception in a similar manner; only my European taxidermist occasionally brought down a waterbuck or other antelope. But I have never been protected by "guns" on a dangerous hunting expedition. "Rely on yourself" is, in my opinion, the right motto in this case.

I have heard many strange tales from Askaris who have carried guns on other occasions, and, wonderful to relate, it was always the white lord, the "bwana kubwa,"

who delivered the fatal shot and brought down the game. It is a very different matter, and far more dignified, to go on a hunting expedition unassisted.

It frequently happens that a rhinoceros scents the position of several of the armed natives; fire is opened on him, and at the last moment the animal, already mortally wounded, finds he is incapable of attacking any of the marksmen, and so rushes snorting past them, to be finished off sooner or later. Such situations give rise to the fairy tales of those wonderful sidewise leaps—a feat of which I could well imagine a toreador to be capable on the flat sanded ground of the arena, even when attacked by a rhinoceros, but which I shall never see performed by a European unless he has been practised in bullfights.

I have often heard of men being gored and tossed into the air by these animals. The list of deaths under such circumstances is a long one, and quite a number of Europeans in the districts traversed by me lost their lives in this manner.

A few years ago I met an English medical officer who had been hastily called to a case of serious illness. Shortly before our meeting one of his Askari, a Sudanese, had been gored and tossed by a rhinoceros (which had been shot at by the whole of the little caravan). The animal's horn had penetrated deep into the unfortunate man's abdomen. The wound was terrible, and the state of the patient seemed as hopeless to the doctor as it did to a mere layman like myself. As I intended to encamp for some time near by, the doctor earnestly entreated me

to take the wounded man into my camp for three days, as he could not arrange for his transport farther.

So, whether I liked it or not, I had to undertake the care of him, with the certainty that a speedy death would release the man from his agony. To my surprise, he was still alive the next day, but towards evening his agony became so great that his sobs and groans were almost unbearable. He begged, he entreated, for help; and so, although at that time I was only provided with absolute necessaries, I gave him my whole store of opium, assuming that he would by this means find relief and never wake again.

But there is no reckoning on the constitution of a black man. After another twenty-four hours he was still alive; and now the effects of my dose of opium began to show themselves in an alarming manner. Again he besought me to help him. But I was altogether at a loss. My small stock of medicines, that I might have employed to counteract the opium, had been used up long ago. At last it occurred to me to administer a bottle of salad oil that was still in my possession. I was successful. The next day the man was taken away, and, as I heard later, recovered from the terrible injury, contrary to all expectations.

Similar cases do not always turn out so fortunately, and frequently end in the death of the person in question. Sometimes the rhinoceros only tosses his victim once in the air, at the same time piercing him with his horns. At other times he returns to his enemy and renews the attack. I myself have been pressed to the last extremity

by rhinoceroses, and even when not at such close quarters an encounter with them is often dangerous and exciting.

My first encounter with the "e'muny" of the Masai happened towards evening, in the middle of a charred and blackened plain, that had been on fire that very day.

Never shall I forget the impression made on me by this uncouth animal mass, standing in its rugged clumsiness in the midst of that gloomy landscape, illuminated by the slanting and uncertain rays of the setting sun. With its head high in the air (the monster had already become aware of our approach), its mighty horns pointing upwards, and its gigantic outline showing against the red of the evening sky, it seemed to be merged in the black ground on which it stood.

My heart beat frantically, and my hand was not steady as, partially screened by a thorn-bush, half of which had been spared by the fire, I let off my elephant-gun from a distance of a hundred paces. At my shot the "Faru" came snorting towards me, and it was only at my second shot, when he was very close indeed, that he turned to the left, and, snorting loudly, took to flight across the plain. My servants seemed to have vanished from the face of the earth.

The scene was enacted in such a short space of time, and made such a powerful impression on me—the apparent uselessness of my weapon against the great animal was so crushing, the swiftness and agility that he had displayed at the last so astonishing—that from that moment the picture I had had in my mind of this animal for so many years was totally changed.

C. G. Schillings, phot.

While all this was happening, we had lying in the camp a man who had twice been thrown into the air by a rhinoceros the day before, and who was only by a miracle recovering from his injuries.

Many notions acquired by us at school are soon dissipated when we find ourselves in Africa. On this occasion it was brought home to me very effectively that I had to do with an extraordinarily active and agile brute, very different from the unwieldy and slow-moving degenerate rhinoceros one was accustomed to seeing in the Zoological Gardens. This was to be borne in upon me by other glimpses of the animals in the distance, and to be driven in still more by my next encounter with one.

With my fowling-piece in my hand—dismounting from my donkey, which had not yet fallen a victim to the tsetse fly—I hasten into a gorge thick with tall grass, in the midst of which I had seen guinea-fowl alight.

As usual, they have run away from the spot where they went in. I follow them quickly, hoping to make them break cover. Suddenly a brownish-black mass arises right in my path and takes up a sitting position for a second, and my still somewhat unaccustomed eyes recognise the huge proportions of a rhinoceros.

The brain has to work quickly in such moments. I lie down flat upon the ground. Grunting and snorting the rhinoceros rushes past me a foot away, raising clouds of dust as he goes, towards the caravan, and right past my friend, Alfred Kaiser.

Kaiser, who had twice been spitted by a rhinoceros, and had made miraculous recoveries on both occasions

after months upon his back, seems to have exercised a wonderful fascination for the species. Wherever he went, there rhinoceroses were sure to spring up! But in the course of his long sojourn among the Bedouins of Sinai, he had acquired a stoical habit of calm, and now he lets the brute dash through the caravan and bluster away into the distance. All he did was to send after it an indescribably strong Arabic oath as it disappeared in a storm of dust. I had to congratulate myself upon "a narrow escape"—illustrating that English expression once again.

On the same day I saw four other rhinoceroses, among them a mother with her young. Soon afterwards a deeply trodden track leading to a rocky pool in the driest part of the velt tempted me to go in for a night's shooting. In these regions the nights get very cold. Accompanied by some of my men, and provided with a few woollen coverings, lanterns, etc., I decided to take my stand by the edge of the gorge. However, we had not taken into account sufficiently the suddenness with which the sun sets in these parts. We got belated *en route*, lost our way, and soon found ourselves plunged in absolute darkness, with some hours to wait before the appearance of the moon. Scattered rocks and troublesome long grass made it difficult for us to make any progress, so there seemed to be nothing for it but to turn back to our camp. That also proved impossible, so I decided to wait where we were until the moon should appear, at nine o'clock, and enable us to retrace our steps. There we stayed, therefore, among the bits of rock which had cut our knees and the sharp briars and dense tough grass, prisoners

IT WAS QUITE A LONG TIME BEFORE THE RHINOCEROS SETTLED DOWN

AS SOON AS IT DID SO—ITS IMMENSE HORN, A YARD LONG, WAVING ABOUT IN THE AIR LIKE A BRANCH OF A TREE—THE RHINOCEROS-BIRDS ALIGHTED AGAIN ON ITS BACK

for the night. Our eyes growing accustomed to the darkness, we were able presently to discern the whitish trunks and branches of acacia-bushes.

After a long wait, suddenly we heard a quick snort. My men threw to the ground everything they had in their hands and climbed up two rather tall trees hard by with indescribable agility. Only my rifle-bearer, who carried my heavy elephant-rifle, waited a moment to give give me the warning, "Faru, bwana"—"A rhinoceros, master!" My hair stood up on my head, but I had my heavy rifle ready in my hand. Now gradually my eyes made out the shapeless mass of the rhinoceros in the uncertain radiance cast down from the stars. A few yards behind me gaped a deep gorge. Escape in any direction was made impossible by the rocks and thorn-bushes and grass. Up on the trees my men remained hidden, holding their breath. A few yards off the rhinoceros moved about snorting. I waited until I could see his horn silhouetted against the starry sky, advanced towards the great black bulk, and fired. The report rang out violently over the rocky gorge and broke into reverberating echoes. The kick of the great rifle had sent me back a pace, and I had sunk upon one knee. Quickly I cocked the left second trigger—with guns of such calibre you must not have both cocked at once, for fear both barrels should go off together—and awaited the animal's coming. But, snorting and stamping, off he went down the hill in the darkness. A deep silence fell over the scene again, and we all waited, motionless, breathless. After a while we started upon our march back to the camp, my men

shouting and singing so as to prevent any such encounter happening to us again.

The following morning we found the rhinoceros—a big, powerful bull—lying dead sixty paces or so from the spot where I had shot him. The lead-tipped steel bullet had penetrated his shoulder, and was to be found on the other side under the skin.

Nocturnal meetings with rhinoceroses are not always

THE RHINOCEROSES GOT UP AND CAME FOR ME FULL TILT

so fortunate in their results—sometimes they are most dangerous in these circumstances. As a general rule, however, when a rhinoceros gets to know of the vicinity of a man at night time he gives him a wide berth. This was to be my own experience on other occasions.

In the upper regions of the watershed between the Masai country and Victoria Nyanza I had numerous

ies of observing the rhinoceroses, not only in
ed parts of this plateau, but also out on the
is, where they were to be seen both singly and
About this time my repeating rifle began to
of order. Nothing is more calculated to make
e his nerve than his weapon's becoming useless
critical moment, when his very life depends upon
was therefore much excited one day when I sighted
ir of sleeping rhinoceroses out on the bare open
In this instance I was lucky enough to kill one
animals at the distance of a hundred yards after
ır's approach to it on all fours in the broiling sun.
second took to flight. Becoming gradually used to
ways, I was fortunate also in subsequent encounters
nem.

may here relate a few episodes from my own experience illustrating the habits of the rhinoceros. They will serve to give the reader a true picture of his character. I shall never forget the day I brought down a very old bull rhinoceros in British East Africa, not far from Kibwezi. It was a very windy morning, and I had just killed a male Grant's gazelle with only one large horn—I had missed it with my first shot. Just as I had done for it I happened to look over the plain to the left, and observed a great black mass about two hundred yards away. I thought at first it was the stump of a tree, but looking again a few minutes later I found that it had vanished. My field-glasses brought home to me the fact that it was a rhinoceros, for there he was sitting in the animal's favourite position, but now farther away. The very strong wind

that was blowing enabled me to approach within fifteen yards of him, where a small thorn-bush served as cover for me. I aimed carefully at his ear, but with a mighty jerk he wheeled round on his hind-legs, thus affording me a better aim. My second bullet, discharged at so short a distance from behind, brought him down. He was killed on the spot. The appearance of this earth-coloured monster, so deceptively like a tree-stump sticking out of the storm-swept velt, often comes back to my memory, especially when I am seized with a fresh longing for the Masai-Nyika life and the velt calls to me again.

Some years later, when I had made it a rule to shoot only big specimens, I brought down an extraordinarily large old bull rhinoceros, which had taken to flight on receiving an ineffective shot on the shoulder, but which made for me on getting a second shot—as rhinoceroses often do—and fell dead only some ten paces from where I stood. There was a cow rhinoceros quite near the bull when I first hit the latter, and both animals charged at each other head-down, the bull imagining that it was the cow that had damaged him. The agility and quickness with which the huge beast moved I shall never forget.

In the hunting of big game, as in all other dangerous occupations, confidence grows steadily in proportion to the perils one has already coped with successfully. Sooner or later, however, a mishap is certain to be encountered, and the more experience one has in pursuing lions, buffaloes, elephants, and rhinoceroses the more careful one becomes.

While stalking kudus once on the shores of the Jipe Lake I was startled by the sudden appearance of a

rhinoceros, which emerged from a mud-bath on its way through a thicket and stood all covered by the reddish mire in the slanting rays of the setting sun. I felt instinctively that the animal would go for me, and go for me he did almost at once, after swaying his great head about two or three times, sniffing out my exact position. At this critical moment my rifle went off before I intended. The bullet went too high, but fortunately was well enough placed to make the rhinoceros turn aside just as he had got to me. Springing into a thick thorn-bush I just managed to save myself. Quick as lightning it chased one of my men twice round an acacia-bush hard by, and then disappeared among the thorns. As my men had taken refuge behind trees and bushes to left and right—I was accompanied by about ten of the men—I could not attempt another shot at him, so he escaped.

Next morning I found myself down with a sharp touch of fever, which kept me in bed for two days, so I was not able to pursue the animal.

In rhinoceros-hunting it is all important to keep note carefully of the wind. You can do this very well by lighting a match. Failing that, the dropping of some sand will answer the purpose, or holding up a moistened finger. In addition to noting the direction of the wind, you have to look carefully to see whether the rhinoceros has his feathered satellites, the rhinoceros-birds (*Buphaga erythrorhyncha*) on him or not. When resting, he often resigns himself to the care of these small feathered friends of his, which not merely free him

C. G. Schillings, phot.

THE TWO RHINOCEROSES AS THEY LAY DEAD

from parasites, but which, by a sudden outburst of twittering and a clattering of their wings, warn him of impending danger. Thus put on the alert, he rises up quickly or assumes his well-known sitting position, ready to take to flight if need be, but lying down again if there seems to him to be no enemy near.

If the hunter is favoured by the wind and able to conceal himself after this first alarm, and the rhinoceros lies down again, the birds—varying in number from a very few to a couple of dozen—settle down again upon his hospitable body. But the moment they become aware of your near approach, they leave it again, arousing the animal once more. It is a case of a partnership between an animal with a very keen sense of smell and birds with very keen eyes.

To what extent these birds are responsible for a small wound of about the size of a five-shilling piece, which I have found on almost all the rhinoceroses I have shot, I am uncertain. The natives declare that it is caused by the birds. I have brought home specimens of skins with these wounds on them, so that they may be investigated. They are generally on the left side of the paunch. In any case, I have found only one rhinoceros without this "dundo," to use the native word. In this respect rhinoceroses are different from elephants, of which the skins are smooth and uninjured.

In spite of the activity of these rhinoceros-birds, which are sometimes helped by ravens, we find the black rhinoceros infested by great numbers of ticks (some of them extraordinarily big), especially in the region of the

belly, which the birds cannot get at easily. I have found various species of these parasites upon them, and, among others, *Amblyoma aureum*, *Ambl. hebræum*, *Ambl. devium*, and, in very considerable numbers, *Dermacentor rhinocerotis*.

Very probably the rhinoceros is infested also by another kind of tick, unknown until discovered by myself. Of all these that I have named, however, the *Dermacentor rhinocerotis* is the only one that is peculiar to the rhinoceros.

I have never actually encountered more than four rhinoceroses at a time, though I have often seen as many as eight together. The manner in which they find their way to their drinking-places, often involving a journey of several hours, is wonderful. They select several spots on which to drop their dung, which they then scatter about with their hind-legs. In this fashion it is they set about making their wide pathways over the velt. Doubtless these heaps of dung serve as marks, which help them to find their way back in the direction from which they have come.

The shape of rhinoceros-horns varies greatly. The horns of the cows are long, and always thinner than those of the bulls. Sometimes the horns are flat, like swords. You find this sometimes even in those regions in which round-shaped horns are the general rule. Now and again the horns of very old cow rhinoceroses grow to the length of nearly five feet.

In a very few rare cases more than two, sometimes as many as five, horns are to be found on the African

rhinoceros. On the other hand, sometimes rhinoceroses lose their horns, and are to be found without any. The very old ones do not renew their horns, I believe, when lost. I am led to this opinion by the case of a very old hornless specimen which I shot, as well as by what I have heard from native hunters, though their statements are always to be taken with caution.

The size to which rhinoceros-horns sometimes develop

WHEN MY BULLET HIT IT, THE RHINOCEROS THREW UP ITS HEAD SEVERAL TIMES

may be gauged by the following measurements of some of the longest and most fully developed that are known :

BLACK RHINOCEROS (*R. bicornis*).

Owner.	Locality.	Length.
Dr. C. H. Orman . . .	East Africa	53½ in.
S. L. Hinde	,, ,,	47 ,,
Imperial Museum, Vienna .	—	44½ ,,

The white rhinoceros, practically exterminated from South Africa in recent years, and now almost extinct—it still exists near Lado—had still longer horns. Here are two measurements taken, like the foregoing, from Rowland Ward's *Records of Big Game:*

WHITE RHINOCEROS (*R. simus*).

Owner.	Locality.	Length.
Col. W. Gordon Cumming .	South Africa	62½ in.
British Museum . . .	" "	56½ "

The white rhinoceros is the largest mammal after the elephant to be found on any part of the earth. Scarce half a century ago the species was still so numerous that Anderson, the English sportsman, was able to kill about sixty of them in the course of a few months in the neighbourhood of the Orange River and the Zambesi.

I myself secured one rhinoceros-horn in Zanzibar which is about fifty-four inches long, and the horns of four rhinoceroses which I shot measure 86, 76, 72, 62½ centimetres; the others are much shorter.

The rhinoceros is particularly dangerous in dense brushwood, whether on the velt among the sueda-bushes, which grow so thickly, or on the high plateaux amidst the most impenetrable vegetation, which grows up in the clearings and ridges, in between the long, lichen-grown trunks of the trees in the woods.

The animal is in the habit of making any number of homes for itself, used alternately, upon the smaller hills of about 6,000 feet high, in the dense thickets. He chooses generally those formed by the shrubs, into which

C. G. Schillings, phot.

A COW RHINOCEROS WITH ITS YOUNG, PHOTOGRAPHED BY FLASHLIGHT A FEW YARDS FROM MY CAMERA

it is most difficult for men to make their way, such as jessamine, smilax, pterolobium, toddalia, and blackberry bushes. In dry weather these regions provide for all the wants of both the elephant and the rhinoceros, and they keep to them for the most part. They render all incursion into these strongholds of theirs a very perilous undertaking.

However, if the wind tells them of our approach, or if we make the slightest noise, they generally either clatter away from us down-hill, or else they remain absolutely still and motionless in their basin-like haunts, which we come upon every hundred yards or so. If the wind be favourable, we may reckon upon encountering them at short range and under risky conditions, especially if we meet several of them together. Even the Wandorobo and Wakamba are not keen about venturing into these rhinoceros-strongholds, and I must admit that, after several exciting experiences in such regions, I have no great desire to make my way into them again. This is not, indeed, the place for the hunter who relies entirely upon his own gun, as I always did, and who has not a body-guard of natives around him ready to blaze away when necessary. In these circumstances, too, you have to shoot anything in the shape of a rhinoceros you see, old or young, male or female, if you care about your own safety. And this is not a pleasant kind of sport. But even when you allow your men to shoot in these pathless thickets—in which you have to grope forward one by one, unable to see where you are going—there is apt to be great danger of their shooting each other.

THE TWO RHINOCEROSES SETTLED DOWN UNDER A TREE

THE COW SUDDENLY GOT UP

Fortunately, these hillsides will remain available for their inmates for many years to come. They will only

THE BULL GOT UP IMMEDIATELY AFTERWARDS

AND, THE WIND SHIFTING A LITTLE, THEY BOTH TURNED IN MY DIRECTION

cease to be a refuge when European traders in their greediness begin to make the natives invade them.

Governor Count Götzen has provisionally interdicted any such enterprise—a very praiseworthy action on his part.

Though put into so many tight corners in my rhinoceros-hunts—tight corners out of which I often got by sheer luck—I never deliberately took the worst risks except when I set about taking photographs.

It was not the easiest of tasks. Like so many other wild beasts, the rhinoceros is most active when the sky is overclouded—just when the camera is no good. The photographer has the animal in a certain position, well lit by the sun, and not too far off—conditions that it is extremely difficult to bring about. Then he must have complete control over his nerves. His hands must not shake, or the picture will be spoilt. Malaria and the imbibing of quinine are not things to fit you for such work!

When once you have experimented in this kind of photography, without a bodyguard of armed Askaris to protect you, you are not disposed to make light of its dangers and difficulties.

However, in spite of all obstacles, I had some success; and how delighted I used to be of a night, as I busied myself with the development of my negatives and saw gradually come into being the pictures made for me by that magician, the sun! For magical and nothing less, they seemed to my men—these minute pictures of which their master makes his records of the day's events. There is no end to the head-shaking that goes on over them. "Daua!" —"Magic!"—is their word for everything that passes their comprehension.

Rhinoceroses

In common with the best-known English authorities, Mr. F. C. Selous, Mr. F. G. Jackson, and others, I have found the rhinoceros always nervous, easily excited, and very capricious in his ways and hard to reckon on. He is particularly nervous when alone. In a rhinoceros-hunt, you never know what will happen next. As an illustration of this, I may describe my experiences one day in

THE COW RHINOCEROS. ITS HORN WAS MORE THAN A YARD IN LENGTH

November 1903, on my fourth and last expedition, when I succeeded in taking an excellent photograph of two rhinoceroses.

I had been trying all the morning to get a photograph of a herd of giraffes, but they were so shy I had had no luck. Tired and parched, I was making my way back to the camp, which was still about four hours' march away, when the two rhinoceroses came in sight, to my surprise

rather, for it was a hot day for them to be out on the velt. They were about 1,000 yards away. There was unusually little wind, but that little was unfavourable, so I made a wide *détour* and had the satisfaction, after about half an hour, of seeing the animals settle down together under a tree. Accompanied now by only two of my bearers and two Masai, I succeeded in approaching warily within 120 yards of them—it happened, contrary to the general rule, that they had no rhinoceros-birds on them—taking up my position finally behind a fairly thick brier-bush growing out of a low ant-hill.

I had taken several pictures successfully with my telephoto-lens, when suddenly for some reason the animals stood up quickly, both together as is their wont. Almost simultaneously, the farther of the two, an old cow, began moving the front part of her body to and fro, and then, followed by the bull with head high in the air, came straight for me full gallop. I had instinctively felt what would happen, and in a moment my rifle was in my hands and my camera passed to my bearers. I fired six shots and succeeded in bringing down both animals twice as they rushed towards me—great furrows in the sand of the velt showed where they fell.

My final shot I fired in the absolute certainty that my last hour had come. It hit the cow on the nape of the neck and at the same moment I sprang to the right, to the other side of the brier-bush. My two men had taken to flight by this time, but one of the Masai ran across my path at this critical moment and sprang right into the bush. He had evidently waited in the expectation

of seeing the rhinoceros fall dead at the last moment, as he had so often seen happen before.

With astounding agility the rhinoceroses followed me, and half way round the bush I found myself between the two animals. It seems incredible now that I tell the tale in cold blood, but in that same instant

THE BULL RHINOCEROS. ITS SKIN IS NOW IN THE IMPERIAL NATURAL HISTORY MUSEUM AT BERLIN. (I AM SCARCELY RECOGNISABLE WITH MY BEARD!)

my shots took effect mortally, and both rhinoceroses collapsed.

I had made away from the bush about twenty paces when a frantic cry coming simultaneously from my men in the distance and the Masai in the bush made me turn round. A very singular sight greeted my eyes. There was the Masai, trembling all over, his face distorted with terror, backing for all he was worth inside the bush, while

the cow rhinoceros, streaming with blood, stood literally leaning up against it, and the bull, almost touching, lay dying on the ground, its mighty head beating repeatedly in its death-agony against the hard red soil of the velt.

The cry the men gave out, as is the case always with these natives, was pitched in a soprano key curiously incongruous with the aspect of these warriors.

As quickly as possible I reloaded, and with three final shots made an end of both animals. In spite of my well-placed bullets and loss of blood they had all but done for me.

It was indeed a very narrow escape. It left an impression on my mind which will not be easily erased. Even now in fancy I sometimes live those moments over again.

It was interesting to note the complete calm and placidity displayed by my men a few minutes after it was all over, though at the time they had been absolutely panic-stricken, above all the Masai imprisoned in the bush. Their whole attention was now absorbed in the cutting up of the bodies and in the picking out of the best pieces of the flesh, quarrelling among themselves in their usual way over the specially relished *bonnes bouches*.

I had many other experiences similar to this one, if not quite so exciting. I may tell, perhaps, of two adventures which I had with rhinoceroses at night time —adventures in the full sense of the word, and of a kind met with by other well-known travellers. In remarkable

contrast to their usual timidity and cautiousness is the way in which at night they seem to put off all fear of men. I had been obliged to encamp in a hollow thickly grown with thorn-bushes, and my men, being tired out, had sunk to sleep after their evening meal. Suddenly during the night I was awakened by one of my boys with the warning: "Bwana, tembo!" whispered excitedly in my ear, while at the same moment several of my men rushed into my tent to tell me the same thing—that an elephant was somewhere about. I sprang up,

ACACIA VELT

seized one of my rifles, and made ready for the supposed elephant, when in came a number of other carriers, wild with excitement, and pointing frantically out of the tent towards a great dark object about forty paces away. In the motionless mass standing there like a great shapeless rock I at once recognised a rhinoceros. There he stood among the small tents of my men, clearly astounded at finding his wonted feeding-place full of men. Within a few seconds almost all my carriers had sought shelter behind me, and I could not help feeling pleased at the wonderful

discipline evinced—my strict orders that not a shot should be fired by any of them at night time under such critical conditions being strictly obeyed. There was a brief pause, the rhinoceros still keeping absolutely quiet. At the moment I decided that I had better act first, and I aimed a bullet at his shoulder. As the shot rang out the animal whisked round with an angry snort and disappeared among the thorn-bushes, stamping and spluttering as he made his way into the open. Next morning we attempted his pursuit, but this proved quite impossible in the dense jungle.

I had a very similar experience on the banks of the Rufu River. A rhinoceros made his appearance in the middle of the camp, and the watch did not venture to fire at him. And on my first African expedition, before I knew much about the rhinoceros, there had been an episode of the same kind. But in this case the two animals I had to encounter did not come right into the camp in the dark; they appeared only in the immediate neighbourhood, and the moon at the time was shining brightly. It was a bitterly cold night; there was no getting warm, even with layers of woollen coverings on one. I was awakened, and sprang from my camp-bed, clad only in my shirt and a pair of spectacles, to get a look at our visitors and see whether I could shoot them. But in the meantime they had sauntered away, and in my scanty garb I followed them, with the man on watch, for about two hundred paces, to no purpose.

Many other encounters with rhinoceroses went off

all right for me, but there were other occasions on which I narrowly escaped with my life.

These great regions of the velt still support hundreds of thousands of rhinoceroses. None can say how soon it will be before the last "faru" shall be slain by man; but that that day is not far distant, that it will come within a few decades, seems to me certain.

IN STORMY WEATHER THE NYIKA COUNTRY OFTEN REMINDED ME OF WILD REGIONS IN NORTH GERMANY

XII

Catching a Young Rhinoceros

"THEN some one will succeed, it is to be hoped, in bringing back alive a young rhinoceros from German East Africa. That will be a red-letter day for our Zoological Gardens"—thus wrote my friend Dr. L. Heck in 1896, in his book *The Animal Kingdom.*

In the same year I trod African soil for the first time. Many illusions, derived from the too optimistic tone of our colonial literature, were soon to be dispelled there, not the least of them being notions about the practicability of getting hold of living specimens of the wild life of the region.

Many efforts have been made, both in German and British East Africa, to bring back alive to Europe either a young rhinoceros or a young elephant. While no one has yet succeeded in the latter enterprise, I succeeded in the former, but only on my fourth expedition—the third

C. G. Schillings, phot.

A YOUNG RHINOCEROS DRINKING IN A SWAMP. A FLASHLIGHT PHOTO AT NIGHT

on which I had gone into the interior with my own caravan. I am reliably informed that the so-called Ostrich Farming Company at Kilimanjaro has lost fourteen young rhinos through not knowing how to bring them up. The Uganda railway now affords facilities for the transport of heavy animals to the coast, but so far has not been the means of enriching our Zoological Gardens.

Clearly there must be some good reason for this state of things. The explanation lies in the great difficulty, first of all, in catching the young rhinoceros, and secondly, in the difficulty of providing milk for him, owing to the lack of horned cattle, when he has to be transported from one spot to another. Partly from the same cause it has not been possible to bring home alive to Europe a number of other splendid animals met with in East Africa. No elephant, no giraffe, no eland or oryx or roan antelope, no specimen of the beautiful Grant's gazelle, or impalla, or waterbuck, or hartebeest, or kudu—not to mention many other of the smaller inhabitants of the country—has yet been conveyed home to any of the German Zoological Gardens.

This is due to the unfavourable conditions, climatic and otherwise, under which one has to work.

No systematic importation of living animals to Europe has yet been managed from either German East Africa or German South or West Africa. This has been carried out in the case of Somaliland—a country unmatched for its salubrity, where camels and horses thrive—through the initiative of the well-known dealer, Menges, but in these colonies of ours it has never been set about properly.

Under competent and trustworthy management and with adequate capital to draw upon, it could undoubtedly be carried out most advantageously; and if the interests of science were kept in mind, such an enterprise would be in the national interest and worthy of universal support.

In May 1903, while staying on the west side of Kilimanjaro, I decided to make a fresh attempt to get hold of a young rhinoceros. This involved acquiring a herd of cows and keeping a look-out for a cow rhinoceros with a young one of suitable age.

In the middle of a dense thicket, more impenetrable than ever owing to the rank vegetation following the rainy season, I at last saw what I wanted, after looking about me for a long time in vain. The old cow rhinoceros had already got wind of me, and any moment might see her disappear into the jungle, so I was obliged to shoot at her. She turned round as quick as lightning, and, followed by her young one, went crashing and clattering into the brushwood. My bullet had not been well placed; the slight extent to which she had bled showed that.

Now follows an exciting and indescribably wearying pursuit, my men and I winding our way in among the thorn-bushes as best we can. Soon my clothes are in shreds and my face and hands all torn and bleeding. Every moment I expect to run up against the wounded and infuriated animal. My men have crept up an ant-hill in order to see what lies ahead. Suddenly—what's that? One of them seems to have espied our quarry!

Quickly I clamber up the ant-hill myself, only to discover that it is a different rhinoceros—a bull, judging by

its short, thick horn. He must not tempt us away. Luckily he scents us and takes to flight. Breathless and perspiring, we return to the tracks of the cow, which often intermingle with those of other rhinoceroses that must have passed this way in the night, and which are therefore by no means easy to follow.

The suspense grows with every moment. The vegetation would afford us no protection against the onrush

ONE OF THE BULL RHINOCEROSES

of a rhinoceros, nor would it impede him in any way—the branches would break before him like matchwood.

Now it is midday and the heat has reached its worst, and still we keep up our chase, making all the pace we can. Taught by experience, my hands grasp my rifle—ready to shoot at any moment. Hour after hour goes by without a break in our advance.

Little hope remains of catching up with our coveted prey, when we come to a pool of rain-water, in which clearly she must have just been wallowing and freshening

herself up with her young one. The water—dark, loamy, evil-smelling though it be—revives us also. And now we are able to take our bearings, and we realise that the rhinoceros must have made a wide circuit and doubled back towards the camp. The finding of this water enables me to keep up the pursuit until nightfall. There is not much joy in the prospect of a night out on the velt with so many rhinoceroses roaming about.

At last, in a small clump of acacias I spot the motionless form of the old cow straight in front of me, and before she can stir from where she stands a bullet in the ear brings her dying to the ground. The young one gives out a piercing cry, comes some paces towards me, then takes to flight. The old animal now rolls about in her death-agony. I give her two more shots, calling out at the same time to my men to throw themselves upon the young one.

The young one, however, takes the initiative and makes straight for us with a snort. Next moment my arms are round him and he and I are rolling together on the ground, and my men, each of whom is provided with a rope, have made fast his legs. At first he follows me willingly as I hold out a piece of his mother's skin in front of him, but by-and-by he begins to squeak and refuses to move. I decide quickly to leave four men with him and send post-haste to the camp for others. Late in the evening he is brought in triumph to the camp.

Now begin the most serious difficulties of my undertaking. For one thing I must get hold of a number of cows. However, he gets used to a goat, and I myself see

C. G. Schillings, phot.

MY YOUNG RHINOCEROS TAKES HIS MILK . . . AT FIRST I MYSELF HAD TO BE HIS NURSE, AFTERWARDS I TAUGHT SOME OF MY MEN TO ENACT THIS RÔLE

so thoroughly to his nourishment and general well-being that he thrives splendidly, and eventually reaches the goal—the Zoological Gardens in Berlin. There he continues to flourish, still in company with his friend the goat.

When I had fed up my captive and got him into good condition, Sergeant A. D. Merkel, now a colonist at Kilimanjaro, rendered me the great service of allowing my men into one of his cattle-kraals with the little animal, while I myself proceeded to the velt.

His transport to the coast, too, which had to be effected on foot, was attended with difficulties. At the period of the greatest heat I was obliged often to march beside him during the night, and I owe a bad attack of fever to spending one night in this way upon a very unhealthy section of the caravan route without any mosquito-net.

Naples we reached all right. Dr. Heck was there to meet us, and had engaged a special waggon from Chiasso. He was highly delighted to welcome the long-desired stranger in so thriving a condition. The officials at the Zoological Gardens at Naples, who were brought to see him by Professor Dohrn, were also very keenly interested.

After careful consideration we decided to go on to Germany by sea. The overland journey seemed to us undesirable in January, on account of the climatic conditions chiefly, although the Italian authorities, whose good offices had been bespoken for us by Count Lanza, the Italian Ambassador at Berlin, were most friendly and obliging. The passage went off all right, in spite of our going through a mistral, which provided us with the

experience of a hurricane on the high seas which lasted nearly two days. "Force of wind" and "Ship pitched heavily" were recorded in the ship's log: the 6,000-ton vessel leant over to the side at an angle of 45°.

However, the young animal stood the voyage well in spite of everything, and at Hamburg Herr Hagenbeck had, in the most friendly way, done everything to ensure our speedy transit to Berlin—a service for which I am most grateful.

So at last we are able to study this very interesting animal in captivity, and to note its growth and development. It differs from its clumsy-looking Indian cousin in its activity, in the length of its two horns, and also in its relative good looks!

I got hold of two other young rhinoceroses later, but I was not so successful in rearing them as I was in this instance.

In one case I found the tracks of a cow rhinoceros and her young at a drinking-place. Accompanied for once by my taxidermist, Orgeich, I undertook their pursuit, which was to prove very long and very difficult, over stony and hilly ground. As I got near her, she took to flight, given the alarm by rhinoceros-birds. From the hill on which I was I could see her and her young one making off over the velt. On we went again, and presently we espied her once more, in the middle of a large meadow of grass with a few trees on it here and there. She was standing still under an acacia, evidently disquieted by our pursuit. I shot at her from a distance of about one hundred paces. My bullet passed through a thick branch

of the tree, but nevertheless hit her, killing her on the spot. I waited until my men (about fifty in all), who were creeping up towards me cautiously, had come near enough, and then sent them ahead to right and left to secure the young animal. However, it was no good. The calf broke through the ranks of the hunters and disappeared over the velt. A five-hours' march took

AT FIRST THE YOUNG RHINO'S DIET CONSISTED ENTIRELY OF MILK

us back to camp. Next day we returned to where the dead rhinoceros was lying.

The following morning the young animal had come back to its mother; but although I had a hundred men with me the same thing happened as before. So this attempted capture was a failure.

In another case, after a seven-hours' continuous pursuit of a cow rhinoceros with her young, we at last

sighted her a considerable distance from us out on the thorn-desert.

She was hit by my first shot, but made off. I ran after her, however, for some time, and at last brought her down with a second. Immediately we all rushed forward to capture the young one, which was of a fairly large size. We had no luck, however. I myself waited by the body of the old one, on the chance of the young one returning to it. My men, stirred into eagerness by the promise of reward, continued their chase. It was already dusk when they came back to me. Dispirited by our failure we made our way to the camp. Nothing could be more depressing than the thought that we had got so near our goal only to fail at last, and that we had killed the mother uselessly. Once again a whole day's wearing work had come to nothing.

Next morning, followed by all my men except the few I left on guard, I returned a second time to the same spot, in the same hope. But now hundreds of vultures and some marabous had flocked thither, drawn by the carcase. So I ordered my men to take out the horns and bring to camp the parts of the flesh that could be eaten.

With three carriers I made my way on to a deep gorge, where I had noticed some rare birds on the previous evening. Just as we got there out rushed the young rhinoceros, almost from under my feet. Covered as he was by the red mire of the velt, neither I nor my men had distinguished him from his surroundings until that moment.

Cut off from flight by the gorge, the young animal, with a tremendous snort, made a rush at me, lowering his head. I managed to grip hold of him, however, by the neck, saving myself from his small horn, and clinging on to it. He and I rolled over on the ground, I getting some bad bruises in the process.

Now my three men threw themselves upon the animal,

WHILE THE YOUNG RHINO WAS WITH ME, I MADE A POINT OF MARCHING BY MOONLIGHT DURING THE HOT WEATHER. BY DAY IT WAS ABLE TO SLEEP QUIETLY IN THE CAMP IN COMPANY WITH MY GOATS AND MY MBEGA MONKEY

and a great tussle took place. A few moments later all the others rushed up from where I had left them just in time to tie up his legs, and on an improvised stretcher he was carried into camp.

He throve all right for several days. Then, however, a tumour made its appearance on his lower jaw, and

gradually got worse. He died a few days later. It was bad luck to lose him, especially when all promised so well at first.

On yet another occasion fortune seemed to smile on me when I succeeded in shooting a cow rhinoceros with her young one beside her; but in this case we did not even get hold of the young one. The spot where we encountered them was a long way from the camp, and we had to go back to it at nightfall, returning in the morning.

On approaching the body of the old one I looked round carefully with my field-glasses, but the young animal was nowhere to be seen. Presently the sharp eye of one of my natives detects a movement in the bushes some distance away. With the help of my glasses I discover that it is the young rhinoceros, who has got up on his feet, and is standing there motionless on the alert. After a time he lies down again, and is completely hidden by the bush.

Favoured by the wind, we are able to approach within a few steps of him, when suddenly, with a snort, out he plunges. To my joy he comes straight in my direction, and I quite count upon bringing off once again my now practised neck-grip, when off he slips to my left. The men nearest whom he passes dare not catch hold of him, and a wild chase, in which my whole following takes part, ensues over the velt. A swift-footed carrier, a Uganda man, almost overtakes him, and makes a grasp at his uplifted tail. Then hunted and hunters disappear from my sight among the thorn-bushes of the Pori. Two

hours later my men come back empty-handed, parched, and worn out.

This kind of thing is, of course, a frequent experience in such regions, where the sportsman is handicapped by having no horse to ride. Under such conditions a hunt of this kind may very well have a tragic outcome.

When at a height of about 6,000 feet up a hill

WHEN I HAD SHOT THE MOTHER, THE YOUNG RHINO ASSUMED SO THREATENING A DEMEANOUR THAT MY MEN TOOK TO THEIR HEELS INSTEAD OF ATTEMPTING TO CAPTURE HIM!

in the Masai-Nyika country, I saw in the rays of the setting sun a cow rhinoceros half hidden by bushes, with a young one, apparently of suitable size for capture. I had to give the old one several shots, as she caught sight of me and made for me fiercely.

The young one took to flight. Some of my men followed him stupidly with loud cries, one man especially

distinguishing himself in this way, his sudden display of valour being in quaint contrast with his usual peaceful avocation—that of looking after the donkeys! I had unfortunately not noticed in time that the young animal was of considerable size, and provided with correspondingly large horns. Suddenly it turned round. The pursuers became the pursued! With screams and yells they took to flight.

It looks as though Hamis, the donkey-boy, must be horned by "ol munj" in another second—he gives out a piercing shriek for help. He is now nearing me. With a shot on the nape of the neck I am just in time to kill the infuriated young animal—not in time to prevent it from crashing down upon the native. Fortunately, however, he escapes without any serious injury.

From all the foregoing narratives it will have been gathered that one must be favoured by circumstances in many particulars if one is to catch and rear a young rhinoceros. It is to be hoped that in the next few years these favourable conditions will be met with and that some other specimens may be brought home alive to Europe.

On about forty other occasions I came upon rhinoceroses with young; but either the young ones were too strong to permit of capture or I was too far away from camp, or there were other hindrances, so of course I did not shoot.

Generally speaking, rhinoceroses keep under dense cover when their young ones are quite small, so that the capture of these is very difficult and dangerous.

SNOW-WHITE HERONS AND BLACK AND WHITE IBISES FLASHED OUT FROM THE MONOTONOUS GREEN OF THE REEDS

XIII

The Hippopotamus

THE hippopotamus will survive both the elephant and the rhinoceros in Africa, not only because it is hunted less, but also because one of its chief haunts, the immense swamps of West Africa, is very inaccessible.

It is long now since hippopotamuses were plentiful in the north of Africa. They used to be called the Nile-horse, because of the numbers to be seen, not merely in the river, but on its delta. Nowadays, not only the hippopotamus, but also to a great extent the crocodile, have disappeared from the Nile, or are to be found in it only above Khartum.

Quite recently there has been discovered in the Nile Valley, bones of swine-like extinct animals in which palæontologists recognise forbears of the hippopotamus. Professor Fraas of Stuttgart it was who found them, and he is now engaged in examining them.

But even in the inland lake-districts such as that of the Victoria Nyanza, the days of this great water-hog seem to be numbered. It is true that on the English side of the lake there is a decree in force to prevent the complete extermination of the species, but in spite of this the "kiboko" is bound to disappear from these regions, just as it has from the Nile Valley.

Of very great interest was the discovery a good many years ago of a species of dwarf hippopotamus on the West Coast, in Liberia. These little animals, according to the scanty knowledge we as yet have of them, would seem to live in the streams of the primeval forests.

The ordinary hippopotamus would be found probably, on closer investigation, to be divisible into various races; I myself have noticed differences in size, appearance, and habits between the hippopotamuses I have met with in the neighbourhood of different streams.

Herodotus tells us that in his time already the hippopotamus was found to have rents on his skin, and he makes the suggestion that these were made by sharp sedge-grass. These rents I too have noticed; but as I have found them also on rhinoceros-skins—never on those of elephants—I am inclined to believe that they must be caused by something else.

We have had many accounts of the hippopotamus from travellers of all sorts, from the days of Herodotus down to our own, and they all agree in describing the animal as ill-tempered and dangerous, and a very ugly customer to deal with. The last testimony to this was given by Brehm, who, however, had to deal for the

C. G. Schillings, phot.

AN OLD BULL HIPPOPOTAMUS, PHOTOGRAPHED BY FLASHLIGHT

most part with hippopotamuses which had already been shot at more than once.

It is only natural that so big and easy a target should be in general favour with travellers who are not genuine sportsmen, especially in the dry weather, when the animals are forced to resort to the small lakes or to

THE MAWENZI MOUNTAIN AND KILIMANJARO

the deep pools in rivers, thus offering a welcome opportunity to such gentry.

As hippopotamuses which have been mortally hit go under at once, to rise again to the surface in an hour and a half or two hours, according to the warmth of the water, through the action of the decomposing gases inside them, a far greater number of them are killed than even the *bonâ fide* sportsman often supposes.

An officer in the East African colonial police, who

had had considerable experience as a sportsman in Europe, and who has contributed much to the study of African wild life, told me that when he first came upon a lake frequented by hippopotamuses he killed more than thirty of them in a short time without realising that he had done so. He would see several monsters rise to the surface and shoot at them, apparently without result—seemingly because he missed his aim or because the bullets did not get at a vulnerable point. The animals he had shot at always rose again to the surface, until at last he had used up all his ammunition, apparently in vain. Some hours later the carcasses of thirty hippopotamuses were floating about on the surface of the water!

This of course could only happen to the new-comer. But it is bound to happen constantly with the kind of inexperienced sportsmen continually arriving in our colonies. This evidence from a trustworthy source throws a flood of light upon the cause of the extermination of many species of wild life.

In the small lakes between Kilimanjaro and Meru Mountain, discovered by Captain Merker, I found a great number of "viboko" (the plural of "kiboko") in 1899—about 150 probably. In the autumn of 1903 their numbers had dwindled almost to nothing.

I had killed only four myself for preservation as specimens—I could have killed almost the whole lot with ease had I chosen. In the driest season they were confined to the deepest parts of the quite small lakes, where they were always liable to be shot. It is true

that for hours together they found safety by keeping under the water, only stretching out their nostrils for a second above the surface every now and again. Under such conditions you must wait for a time until they are rash enough to show their eyes and ears. Only then can you get a shot at them that will kill.

It is most remarkable how long they can remain without showing more than their nostrils above the surface—all the rest of them invisible to the sportsman waiting barely twenty paces away. A snort and squirting up of water are the only signs of their existence. They can hold out for a long time with a minimum of air.

On the occasion of my last visit to the Merker Lakes I succeeded in taking several photographs of hippopotamuses in the water. I had a shot, too, at a very old bull "by special permission," and killed him with a single bullet in the ear.

I found, however, a man named De Wet (believed to be a Boer) engaged on behalf of a Greek merchant in slaughtering the rest of the animals in order to secure their teeth and their skins, which are cut into strips, for trading purposes.

Though quite without means, according to his own account of himself, this man had nevertheless been allowed to cross the frontier, equipped for shooting, and to pass through the Moshi station to the lakes; and, extraordinary to relate, he seems to have been let off the regular shooting-tax imposed in the case of marabous, on the ground that he declared he was able to catch these birds and set them free again after despoiling

them of their feathers! As a matter of fact, what he really did was to kill the marabous he found on the corpses of the hippopotamuses he had himself shot.

On my reporting this at the station the man, who had been going about all over Africa for seven years, without having any kind of credentials on him, was arrested and brought up for trial by order of Capt. Merker, who had just come back from leave. His employers paid the money due for the shooting-taxes. This incident shows how undesirable it is to allow foreigners, well equipped with ammunition but without credentials, to journey in the interior, where there can be no control over their actions.

In this connection I may remark that the capture of an old marabou in an unimpaired condition is a feat I have had before me for many years. It is an extraordinarily difficult undertaking, very seldom carried out successfully.

The teeth of the hippopotamus are much harder than ivory, and for a long time were used for the manufacture of false teeth. Science has now found a better means of producing the latter, though it has yet to discover a substitute for ivory in the making of billiard-balls. Old Le Vaillant remarks in his book of travels, published a hundred years ago: "It is not surprising that Europeans, especially Frenchmen, should make an article of commerce out of the teeth of the hippopotamus, for with the help of science they are made to replace our own, and we may see them flashing delightfully in the mouth of a pretty woman."

C. G. Schillings, phot.

A YOUNG COW HIPPOPOTAMUS, PHOTOGRAPHED BY FLASHLIGHT

The Hippopotamus

In 1896 I found the natives on the shores of the Victoria Nyanza inlets in a state of great excitement over the vast numbers of hippopotamuses, and not at all afraid of them. It was very curious to see these natives on their rafts busy fishing, while the hippopotamuses kept coming up to the surface of the water all around them, and great numbers of huge crocodiles lay basking on the sand-banks in the sun. I was pleased to discover for myself here what I have often observed elsewhere, and which Dr. R. Kandt had assured me was the case in certain parts of Central Africa, namely that these animals are only ill-tempered and aggressive when they have been pursued by men and several times wounded.

In one book of travel I find it stated that the Askaris in Government service were obliged to keep firing off their guns at night to protect a camp from hippopotamuses. It is curious that I myself have never had any cause for alarm in regard to these animals. Many of my encampments were situated in the midst of swamps and on river-banks, and within a few paces of my tent hippopotamuses would come sniffing all round inquisitively in the water, yet none of my men bothered about them, seeing their master did not.

In two cases, indeed, a hippopotamus walked right into my camp at night time between my men's tents without doing harm to any one. On one other occasion my sentries did fire at a hippopotamus which (as I satisfied myself afterwards) was actually rubbing its nose inquisitively against the canvas of my tent. In this instance I had had my own tent set up only a few

yards from where the monsters made their way up from the water, while my men's tents were farther away.

I can understand of course that travellers who give their men orders to fire at any animal showing itself at night will report differently. As I punished my sentries most severely if they fired a single shot without permission, even at night, I am able to speak positively upon this matter. I was travelling with the sole object of studying the life of the animals, and could not allow myself to become a prey to groundless and ignorant fears about their attacking me. No doubt it sounds fine to hear how the camp had to be defended at night against the attacks of these monsters from the deep. I myself, to my regret, have never experienced anything of the kind, and I am inclined to believe, therefore, that it must generally have been a case of precipitate blazing away rather than of real danger.

I was much astonished to see my Wandorobo set to work calmly dragging out of a quite small pool a hippopotamus which I had shot, although there were two other "makaita" in the pool at the time. They had to go within about three yards of the spot, and almost touched the two living hippopotamuses which had not been shot by me, and which came up snorting about every two minutes. This experience—and I had many such—will perhaps help also to modify the impression derived from fanciful accounts given by certain other travellers.

The attitude of the hippopotamus towards the crocodile is very interesting to note. The two animals live side by side on the best of terms, the quite young

hippos being so well guarded from their dangerous neighbour that they seem to be hidden away altogether.

It is a different matter when you have killed a hippopotamus and the keen-scented crocodiles immediately swim towards it upstream. I have seen this happen on several occasions. One particularly interesting case comes back to my memory.

I had shot an old hippopotamus, which was at once

DRAGGING THE BODY OF A HIPPOPOTAMUS OUT OF A POND IN WHICH I HAD SHOT IT

carried down against a sand-bank by the force of the stream, and forced up on it so that it was visible out of the water. I sent the two men who were with me back to the camp, which was half an hour's journey away, to get help and ropes. I remained behind myself on the bank hidden behind a tree, with only a few yards of rushing water between me and my quarry.

The great rounded mass of flesh lay motionless upon the sand-bank. The dark stream must have carried down some particles of the animal's blood, for soon I saw a crocodile's snout pop up, then several others, above the smooth surface lower down where the water was deeper, and then disappear again.

In a surprisingly short time a large crocodile, more than four yards in length, came into sight, gave a look round, disappeared again in the water, and then scrambled up alongside the body of the hippopotamus. The dangerous-looking beast coming right out of the rushing stream presented a sinister sight. But now I involuntarily took a step back as I saw his terrible jaws open wide and begin to tear eagerly at the hippopotamus's flesh.

I kept myself hidden, however, and was thus enabled to witness the wonderful spectacle of more than twenty crocodiles, all nearly the same size, emerging from the water a few yards away from me and begin tugging the hippopotamus this way and that. They could not bite through the hard impenetrable skin. They got away an ear and part of the snout and the tail—that was all. Not until putrefaction began to set in, as it does so astonishingly quickly in the tropics, did their bites begin to take effect.

These huge brutes, fighting and tumbling over each other in their lust for the prey, were a sight not easily to be forgotten. But they were gradually dragging the hippopotamus down, and I began to fear it might be swept away by the stream, and thus be lost to me. There is no object in shooting hippopotamuses in a big

stream unless there be sand-banks, not too far below the spot where you see them, or else shallow rapids, upon which the bodies carried down sideways may be stranded; otherwise the animals would be carried right away and lost to the hunter. Therefore I raised my rifle and began to fire, remaining well hidden all the time. When my men arrived about half an hour later I had killed about

HIPPOPOTAMUSES AT HOME

fifteen crocodiles, and could have killed at least ten more had I been better provided with ammunition.

The speed to which "kiboko" is able to attain on land is as surprising as that of the rhinoceros and the elephant, and seems incongruous with its unwieldy shape. Twice only have I seen hippopotamuses take to flight on land. Each time I was astonished by their activity. Once also I was very hard pressed by a hippopotamus in these circumstances, and only just escaped with my life. I had encountered the animal on land towards evening. Contrary to my expectation, after receiving a

shot which was not immediately fatal, he made for a small lake behind me instead of a far larger one in front of me. On he came in my direction at an alarmingly quick gallop. I owed my escape only to the second shot which I fired, and which made him turn aside and then stumble and fall dead, for with my third shot my rifle missed fire!

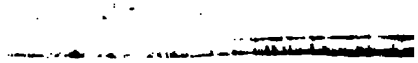
In another case a hippopotamus I shot on land at a few yards' distance stood up, opened wide his mouth, literally bristling with teeth, and sank down with a flop, dead—a sight I should have liked to photograph if only I had had my camera available at the moment.

The curiosity displayed by hippopotamuses is remarkable. The natives often attract the animals to the shore by playing upon this weakness of theirs. Captain Merker told me that the natives are in the habit of calling out to them "Makau! Makau!" on hearing which whole "schools" of hippopotamuses come swimming up. I myself have witnessed scenes of this kind on the Merker Lakes.

"Makau" (plural "El Makaunin") the Masai name for the hippopotamus, is a clear indication, as Captain Merker writes me, of the Masai having wandered over the Nile valley. Merker says he could find no similar word among the names given to animals in any of the still living Semitic languages known to him. At last he found a key to its origin in the Assyrian word *ma-ak-ka-nu-u*, "beast of Southern Egypt."

I cannot deny that in my attempts at navigating African lakes and rivers in fragile canvas-boats I experienced a good deal of nervousness in regard to

C. G. Schillings, phot.



the propensity shown both by hippopotamuses and crocodiles to overturning them. Never shall I forget the feeling with which I once saw two great hippopotamus-heads emerge from the water a few feet only from my fragile little vessel in midstream. Only once have crocodiles seized hold of my boat and overturned it, while hippopotamuses have never even attempted to do so.

I have had many encounters with "viboko" on the Rufu River, which for years I had known to be impracticable for boats, before the fact was authoritatively stated. I was one of the first European hunters to go through the woods along its banks.

The animals are fond of sleeping upon islands in rivers and lakes. You often find sleeping-places on these islands which seem to have been thus in use for ages. Hippopotamuses manage to clamber up even quite steep banks. Often you see, leading down to the river, deep grooves worn by them out of the soft stony soil in the course of countless years. At such spots on the rivers flowing into the Victoria Nyanza I found heavy snares set up by the natives, in passing which the animals would be stabbed in the back by poisoned wooden stakes. Quickly succumbing to the poison, their dead bodies would soon rise to the surface of the river, in which they had sought refuge.

Very curious is the habit the "el makaunin" have of whisking their dung up on bushes with their bristly tails. The bushes thus covered serve as landmarks (as in the case of other mammals) and enable individual animals, especially males and females, to find each other.

In 1896 hippopotamuses were still plentiful in the Nzoia River and the Athi River in British East Africa; they were to be found, too, all along the coast between Dar-es-Salaam and Pangani. I saw them on several occasions in the surf, and shall never forget my astonishment once, on getting out of a clump of cocoa-palms, to see what I had imagined to be an uprooted tree-trunk out on the sands suddenly change into a hippopotamus and make its way out into the sea.

Hippopotamuses travel by sea to get from one estuary to another, no doubt ridding themselves at the same time of certain parasites in the salt water.

On the river deltas along the coast efforts have been made to capture young hippopotamuses—one of our best-known dealers in wild animals lost his son through an attack of fever brought on by one such attempt. Eight years ago I saw in the harbour of Dar-es-Saalam some hippopotamuses which were left unmolested there; and one nocturnal expedition on which I went out in the company of the acting Governor, Herr von Benningsen—it was my first experience of the tropics—I saw a hippopotamus quite close at hand. As it was wild boar we were after, I was naturally much surprised at coming upon one of the giants of African life in this way.

The capture of young hippopotamuses is a considerably easier undertaking than that of young rhinoceroses or elephants. Nevertheless, very few specimens have as yet been secured.

Some years ago a European resident in Portuguese territory tried to catch a full-grown hippopotamus in a

trap-hole with a view to bringing it home alive—the trap-hole was quite near the coast. The attempt miscarried owing to the animal upsetting the transport cage, into which he had been driven successfully, and coming to grief.

The ancients surpassed us all in such matters. They knew how to capture, not hippopotamuses alone, but full-grown specimens of all the other species of African animals, with a view to making them take part in the fights in the arena.

The intelligence of the hippopotamus is of an extraordinarily high order, considering its kinship with the pig. To what a remarkable degree its scent is developed only became known to me fully when I sought to photograph the animals at night time. Unless I took the utmost precautions they always got wind of me and moved out of range of my camera, choosing a different egress from the water.

HERE AND THERE THE HEADS OF IMMENSE CROCODILES EMERGED FROM THE STREAM

XIV

Buffaloes and Crocodiles

IN the autumn of the year 1899 I encamped on the banks of the Pangani River, about midway up its course. My taxidermist and I were busy preserving and packing the zoological specimens we had collected, and for a period of about a fortnight there had been so much work that I had hardly been able to leave the camp.

For some time I had been sending out reliable scouts to track buffaloes. Since the rinderpest broke out in the Kilimanjaro district these animals had been very scarce, and I was about the first European hunter to visit the unhealthy swamps of the Pangani. For weeks my people had been making fruitless journeys. Nowhere could they find the buffalo-haunts. Suddenly they found, some distance from my camp on the bank of the river, two natives, Waseguhas, who had built themselves a little hut there, and had planted a little field with maize, living

besides on the fish they caught. They were evidently there to hunt the buffaloes, and to watch their movements by taking up their position in trees, whence they could spy out their extraordinarily well-hidden refuges, which during the drought were chiefly in the marshes. The heads and horns of the buffalo are valuable

PHOTOGRAPHING THESE BUFFALOES WAS A TICKLISH BUSINESS

goods, as they are much coveted by Europeans as "shooting trophies!"

One of these natives was brought to my camp. At first nothing could be got out of him, but after a great deal of parley he decided to give me some information. He told me that a short while before six blacks armed with breech-loading rifles had waylaid some buffaloes in the vicinity of his little plantation. These men had informed him that they had been sent from the next station, Rusotto,

to kill buffaloes. So far their efforts had been in vain. As soon as they saw the buffaloes appear they sought safety by climbing up trees. Still, they managed to kill between them three rhinoceroses, and then disappeared, taking the horns with them.

These statements turned out to be untrue, as I was to learn from the district commissioner at Rusotto, Herr Meyer, who made every endeavour to preserve the wild game. Information came presently from the Mseguha that a large herd of buffalo was just then to be found in the almost inaccessible marshes of the Pangani River. I immediately decided to move my camp to this neighbourhood, in order to kill a buffalo at last, cost what it might.

On September 2nd I started off in the early morning with a large number of my people, to camp again after a six-hours' march in the direction of the Lafitti Mountains.

During the march I managed to obtain two beautiful eagle-owls (*Bubo lacteus*). Large herds of waterbuck, comprising some 150 or 200 head, flitted in and out through the beautiful river-forests, but I could not stop to shoot any.

My camp was connected with a very large island in the river by an indescribable break-neck bridge that could only be crossed with bare feet. This island merged in the wide and impenetrable marsh beyond. The next day was passed in reconnoitring the island. Waterbuck in thousands sped hither and thither over the surrounding "gambo" as well as the island. I had wisely resolved not to fire a shot, so as not to disturb more than was necessary the extraordinarily shy buffaloes. So I had to give up all idea of

venison. My caravan was amply provided with Indian rice, which is so easy to carry, and I was just expecting a subsidiary caravan with over 100 packets of the same from the coast. There was a famine at the time, and it was an exceedingly dear and almost unattainable article of food. I was sorely tempted to fire at two rhinoceroses, which nearly ran me down at a moment when I was following a honey-pointer. The cheerful cry of the honey-guides (*Indicator sparrmani*, *I. major*, and *I. minor*) one follows whenever possible, to be guided in all probability to a hive. The fatigue of the pursuit is often richly repaid by priceless stores of honey, a delicacy much prized in the lonely wilderness.

I soon found that the buffaloes made this spot their nightly haunt. A great number of the grass-patches on the island were hot and scorched. Only at the fringe of the marsh fresh green grass was sprouting just where the water rippled and made the ground wet and damp and black. The marshy bits between the grass-patches, although still filled with turbid water, were in the act of drying, and were, like the surrounding ground, well trodden by buffaloes. It is difficult for any one to form any conception of the unhealthy district these animals had chosen as their place of refuge. The water oozed out of the stagnant, swampy ground at every step. A very varied marsh vegetation grew everywhere. Over the desert wastes, or on the edge of the marsh, hundreds of softly twittering pratincoles hopped about (*Glareola fusca*), and at night the mosquitoes swarmed in myriads. A rich variety of birds was to be found there, but

among mammals only a few baboons and long-tailed monkeys, besides the big herds of waterbuck. The apes had once found a bridge to the island in a gigantic tree which had fallen across the stream, but soon the rush of the flowing water at the Masika time had broken this temporary bridge, and thus they were cut off from the mainland. The waterbuck had crossed at shallow and narrow spots. Waterbuck and buffaloes have no fear of the numerous crocodiles, always managing to give them a wide berth. This fact was very interesting to me. No other wild animal that I know of, with the exception of the hippopotamus, eludes the crocodile in the same way.

I could find no trace of the reedbuck, which I had expected to see on the island, although they were often on the mainland close by. I presume from this that they were not so clever as the above-mentioned animals in escaping the jaws of the crocodiles.

During nearly the whole of the day, but more especially at night time, the voices of the hippopotamuses resounded from the marshes, intermingling with the numberless cries of the birds. Save for this, there was silence.

All along the bank of the river I found that the island was very well guarded against intruders. Everywhere I could see the pointed snouts of gigantic crocodiles popping up out of the water and slowly moving with the stream. Here in a deep part of the river a more than usually large collection of them was assembled. As they approached most cautiously that part of the river-bed where long stretches of sand-bank glistened in the sunshine, I found dozens of these immense creatures

sunning themselves. Near them numbers of Egyptian geese and other marsh-birds had arranged themselves on the sand-banks. They were wise enough to stay near the shallow parts of the river, and did not go close to those deeper portions where the crocodiles are wont to make their sudden attacks. Though, for that matter, I am inclined to believe a certain degree of friendliness exists

THE RUFU RIVER

between the crocodiles and the birds. In the Sudan we know that a small kind of plover lives in close harmony with the great animal; but the sagacious ducks and geese one never sees swimming about in the deep waters frequented by crocodiles.

Several days passed in a fruitless search after buffaloes. In order to find out their haunts, I dived into the marshy swamps by means of the almost impenetrable tunnel-like

paths trodden by the hippopotamuses. However, I soon returned with lacerated hands, and horribly bitten by mosquitoes, with the conviction that the beasts had no certain resting-place, and that they forsook the marsh at night to return thither at dawn of day. Neither on the marshes could I find trace of them. With much trouble I climbed several very tall acacia-trees that grew on sundry dry spots. Thence I could get a better point of view, and was able to make out the places where the buffaloes were lying. Hundreds of egrets swarmed above them. They served to draw attention to the buffaloes, to which they attach themselves always, and which they free from vermin without disturbing them. The region swarmed with vermin.

Knowing the extraordinary timidity of the buffalo, I had given strict instructions to my people to remain within the camp. Wood for burning had to be fetched only from quite close at hand, and no one went farther than the path which connected us with the mainland.

Our grain was sent by this path from my chief camp. The place of encampment itself was carefully cleared of grass and bushes, a needful precaution. Countless millions of tiny ticks (*Rhipicephalus sanguineus* and *R. appendiculatus*, as well as *R. pulchellus*) covered the grass and bushes of the island just where the water-buck were usually to be seen, and especially at the haunts and feeding-places of the buffaloes. It was impossible to pass through the island without immediately being covered by hundreds of these ticks.

On returning to the camp my natives used to remove

these tiresome vermin with the greatest equanimity, or else did not bother about them at all. But it was quite another matter with Orgeich and myself. My own efforts to rid myself of them only made things worse. Horrible inflammation was the result. I immediately flew to sublimate baths in my indiarubber tub; but without result. The only means of getting rid of these pests was to undress completely and to allow the natives to make a thorough search lasting half an hour.

Visitors to the Zoological Gardens will be familiar with the sight of the monkeys rendering one another mutual assistance in this respect, and they will form some idea of the scene which was daily enacted with regard to myself, when a haul of from 50 to 100 tiny almost invisible insects was taken from me! These little bloodsuckers managed to produce rather serious swellings in the region of my stomach. So small were the tiny fiends that I at first ascribed the evil to other causes. For the following weeks and months I had troublesome sores, which refused to yield to remedies, and did not heal until I reached the highlands some time later. Painful days and sleepless nights—my colleague Orgeich suffered just as much as I—marked our stay upon this island, which I had called Heck Island in honour of my friend Dr. Ludwig Heck, whose life-work it has been to secure the preservation of big game. The little island was an ideal natural preserve for buffaloes and waterbuck, and kept them out of the range of the rinderpest then ravaging the Dark Continent.

There was no getting at the buffaloes. Whenever

I attempted to penetrate into the marshes I was soon hindered by channels traversing the morass. The only possibility seemed to be to seek out the herds in the very early morning before they had returned to their swampy haunts. Many times I seemed on the point of succeeding; it was but a question of minutes, and each time I came a few minutes too late. The shyness of these animals seemed to be unconquerable, and with the breaking light of dawn they had already returned to their hiding-places—a striking example of the sagacious habits necessary to their conditions. One would think that such a powerful beast as the African buffalo would have no cause to fear molestation of any kind! Yet, whether alone or in herds, these animals had taken in the altered conditions of things and feared the flash of the European firearms as much as the noiseless and swift poisoned arrows of the natives.

Thus passed day after day, but I was determined to persevere. Only thus can the hunter—at least in the tropics—hope to attain his end. One man after another sickened with the malaria, and we Europeans strengthened our doses of quinine to be more sure of ourselves.

During the evenings and nights we went in for catching crocodiles for a change. After long days of work my men had felled two huge trees, which, falling into the river from each bank, just met in the middle, and thus formed a primitive bridge over to the right bank. About and under this river-bar large crocodiles assembled. With the aid of some hooks for shark-fishing which had come from London, I endeavoured to get hold of

C. G. Schillings, phot.

IN NOVEMBER I SAW IMMENSE NUMBERS OF FLAMINGOES

some of these beasts, but I could not at first succeed. I hit at last, however, upon a plan which brought me to the desired end. A piece of flesh with bones was attached to the hook with some string, and the line was thrown into the water at night and by moonlight. If it was seized by a crocodile, I let out some fifty or more yards of a tight, strong rope, such as is used in pike-fishing; then the crocodile began to take a hold, but was in every case far too knowing actually to swallow the hook. Carefully hidden in the bushes some ten to twenty men pulled in the prey, often weighing more than a thousand pounds. As it came near it beat and splashed the water violently with its powerful tail. Now was the time to lodge a quick bullet in its head by the light of the moon.

A shot from a small-calibre rifle cripples the monster absolutely, if only it is hit somewhere near the head. It hangs motionless on to the line without opening its terrible jaws in death, but giving out an unbearable stench. With the help of a very strong and thick rope fastened round its body, one now succeeds in bringing it to land. A kind of barbed harpoon, fastened on to a long pole, is very effective at this stage.

Working by night on these lines we generally caught six or more crocodiles, twelve or thirteen feet in length. Of course there were many failures.

On these occasions I learnt to know and fear the tremendous strength of the blows that can be given by their tails. One of my men was very keen on this sport, having once been seized hold of and nearly drawn under the water by a crocodile! For hours he watched the

line I had thrown, ready to prompt me at the critical moment. He had sworn vengeance on "mamba," and danced with glee every time I managed to catch or kill one of the beasts.

The contents of the stomachs usually consisted of bones from mammals and fishes. Besides, there was in every stomach a large number of pieces of quartz, which had either been ground quite round before swallowing or had undergone this operation in the stomach. In any case they were necessary for the complete process of digestion. These pieces of quartz were sometimes quite large—about the size of an apple. In one of the animals I found a vulture, whole and entire, which had been swallowed unmasticated. As the bird's skin was spoilt I threw it into the river. Crocodiles are capable of swallowing immense objects in this way. In 1900, during the time of drought and famine, I killed crocodiles whose stomachs contained human bones swallowed almost uncrushed.

It is most interesting but very difficult to watch the real life of the crocodile, about which unfortunately so little is yet known. Even the younger ones are extremely shy and cautious. Should they happen to have scrambled on to the branches overhanging the water they dive at once and remain out of sight. The older they grow the shyer they become. They keep in such deep water that they are able to seize their prey without exposing themselves to view. I have often found crocodiles lurking near the drinking-places of the wild herds, lying in wait for them.

C. G. Schillings, phot.

VULTURES ON A DEAD BUFFALO

I remember very vividly one case in which I was a witness of a crocodile's way with its victim. My thirsty herd of cows had hastened down to the river to drink after a long march without water. But no, they would not drink! They sniffed at the water here and there doubtfully, plainly scenting danger. Not until some of my men threw stones into the water so as to scare away their unseen enemy would they quench their thirst, proceeding then to graze by the river-bank.

Some of the stragglers from my camp now appeared on the scene with more cattle. A beautiful large coal-black ox that I had long spared death on account of his size approached the water. His sense of smell told him he could drink there without danger; besides, had not the whole herd, knee-deep in the ooze, refreshed themselves at the same spot?

The huge body of the beast sank deep into the mud. Hardly, however, had he dipped his nose when I saw a tremendous crocodile slowly rise from the turbid water, and in the self-same moment the bull, caught by the snout, disappeared below the surface. The slippery nature of the slanting bank made him an easy prey. The whole proceeding took place so quickly before my eyes that for an instant I stood there bewildered, not knowing what to do. Quickly, however, recovering my presence of mind I hurried to the edge of the bank, but could see nothing but a few bubbles on the surface of the muddy stream. There was nothing to be done. Still, we hurriedly followed the stream for a little way, and saw right in front of us, close to the opposite bank,

the body of the bull floating on the water. It was being torn to shreds by numbers of crocodiles, who kept reaching their heads out of the water to bite at it. We fired in their direction, but did not disturb the rapacious animals in the least, and were obliged to leave them in possession of their booty.

I lost several cows in the same way at other times. Men were sometimes seized in a similar manner, and I was once witness of this. On the return journey to the coast after a successful termination to my 1899-1900 expedition, a native fell off the foot-plank which bridged the Pangani River near Korogwe. He was immediately seized by crocodiles, and disappeared before our eyes—a victim to the sweet palm-wine of which he had drunk too freely!

Often I have been seized with a lively feeling of dread when we have had to wade through the water shoulder-high in order to get across a river. On these occasions the natives make themselves a strong crocodile charm, a "Daua." My "Daua" was simply to fire a number of shots into the water above and below the fords! I have seen a great number of natives seized by crocodiles, many of them escaping in cases where the crocodiles were small.

My method of fishing for crocodiles was only feasible at night time, or on a very cloudy day, as is often the case with line-fishing. One absolutely necessary precaution was the careful hiding of the angler behind a covert on the river-bank.

The new-comer may often be deceived as to the number

of crocodiles in the rivers, as the snouts and nostrils of the animals, which just reach the surface of the water, are very often nearly invisible. Crocodiles notice everything that goes on in their vicinity; their eyesight is extraordinary. If the reptiles happen to be lying on sand-banks or low-lying places by the bank, they suddenly disappear into the water at the least sign of danger. I have often surprised gigantic crocodiles by coming out from the covert on the bank. Then it sometimes seemed as if the ground under my feet suddenly became alive, or as if some moss-covered tree-trunk in the water had come to life.

Young ones just out of the broken eggs I used to find in March. Even these showed themselves inclined to bite. Some old animals that I have caught used to emit at times a peculiar deep, indescribable half-growling sound, of a savageness hard to describe; a sound which I have now and again heard them make when at liberty, especially at rutting-time. The quite young crocodiles when caught gave a loud and lively cry.

A bullet from a small-calibre rifle (even a common lead bullet) will kill the reptile on the spot, if it strikes the head in the region of the spine. It seems to set working a kind of convulsive motion in the whole vascular system of the animal. I have killed a great number of crocodiles which could not move an inch after having been hit by a ball, and which lay as if struck by lightning.

My friend Captain Merker once had a very interesting experience with young crocodiles. He found some crocodile-eggs near the volcanic Lake Chala, in December, and took them back with him to Port Moshi.

About eight days after, something squeaked in the cigar-box in his room where he had put the eggs. At first he believed it to be some mice, but he soon discovered that several crocodiles had broken out of their eggs, having managed to do without sunlight during the last days of the hatching period.

We have very little information about the breeding of crocodiles, especially of the African species. This is easily explained by the great shyness of the animals. They are shyer in some regions than in others. They are sometimes much less so, for instance, in a large lake like Victoria Nyanza. In the large bays to the south of this lake I found numbers of them on the sand-banks. They and the hippopotamuses lived there seemingly on a friendly footing with the native fishermen.

If by night the fishing for crocodiles afforded us so much diversion, the days passed uneventfully in the Buffalo Camp. I made several shooting excursions along the right bank of the river, towards the hills on the Nyika frontier. From the plentiful supply of waterbuck I secured some unusually fine specimens.

It seemed as if I were never going to meet with the buffaloes. At last my Wandorobo saw a herd of about thirty head at daybreak, and were able to notice how they had lain down in some small swamps very far from my camp. In two hours' time I was on the spot. The wind was very strong, in one direction, and altogether favourable. Once again I attempted to approach the buffalo herd. Still in vain! I was up to my knees in the soft black ooze of the swamp. Cautiously I strove

to penetrate the sea of reeds. These reeds were so thick and high and impenetrable that I found it impossible to reach the animals. Only grass-green, luxuriant reeds grew in the marsh. There was not a single tree-trunk anywhere near the buffaloes. At last I managed to get to a spot pointed out to me by a Wandorobo who had nimbly climbed a high tree to my rear. Then I saw

WE CAME UPON HUNDREDS OF SKULLS OF BUFFALOES—PROOFS OF THE IMMENSE NUMBERS THAT FELL VICTIMS TO THE RINDERPEST

that only a close shot would be of any avail, but such an attempt would be sheer suicide. After much hesitation I returned to my men, and myself climbed a high acacia-tree. But even from here I could not clearly make out the whereabouts of the buffaloes. I decided then to startle them with a shot in the air. Then began an indescribable tumult among the reeds, a great swaying

and waving of the green stems; but even from my high look-out I could only now and again get a momentary glance at one or other of the immense horns of the black beasts. Soon they had disappeared. I now saw that it would be impossible to hunt them in such a place. With difficulty I climbed down from the high tree. It is no fun to climb a tropical thorn-tree. A very short stay among its branches gives a very unpleasant close acquaintance with all kinds of ants, whose bites do not have much effect on the leathern skin of the black, but have a very serious one on the tender skin of the European.

Two more days passed in patient waiting. At least the buffaloes left fresh traces every morning, and did not change their haunts as I had feared. The plague of ticks was becoming daily more unbearable for us Europeans, and at night there was no sleep because of our wounded skins. At last, one very cloudy day at noon, we found a large herd grazing on a grass-patch just within the marsh, and only a few yards from the thick reeds. It meant wading through some of the swampy channels to reach them. There was no cover for us—nothing but the reeds. There were some moments of the greatest suspense as, on nearing the herd, I had the opportunity of observing the imposing picture made by some sixty head of these wild cattle, now, unluckily, so rare. Tame cattle I was inclined to characterise them, despite their ferocious appearance. The thick mass of the black, closely packed forms as they zealously cropped just in front of me had something grand and impressive about it. But now I had to decide on my shot, and, with a beating heart—I acknow-

ledge it—I aimed at the bull that was grazing somewhat away from the herd. The distance was about 120 paces. As I fired it shrank back, sinking on its head and flapping its tail. A second bullet sent it rolling forwards, the whole herd taking flight instantly, disappearing into the high sedges with lightning speed. The bull rose again, but a third shot did for it. So at last I had killed a buffalo!

The skinning of the animal and the carrying of the heavy skin through the marsh into the camp, and then the various processes of preparing it, entailed much labour, but the joy at the result of my perseverance was great indeed.

Eight more days on "Heck Island" did not bring me another chance of a shot. Buffalo-hunting in East Africa, it will be seen, is no easy matter. It was otherwise before the year 1890. From this time onward the rinderpest began its ravages in German and British East Africa. The epidemic was spread fast and wide by the tame cattle, and the fine East African buffaloes were nearly all laid low. An English official and friend of mine found on one day in that year about a hundred sick buffaloes in various stages of dissolution. I myself found their bleached horns at that sad time in great numbers all over the place.

In 1887 Count Teleki shot 55 buffaloes in three months on the Nguaso-Niyuki; and Richard Böhm relates that in mountainous and damp Kawenda he met quantities of herds comprised of hundreds of buffaloes, and that their lowing could be heard by the passing

traveller. Those days are gone. The merciless rinderpest nearly struck the buffalo out of the list of the East African animal world. It struck at them just as it struck at the Masai race.

If the investigations of my friend Captain Merker are well grounded, it is thousands of years since this race of nomads, one of the oldest of all the Hebrew races, made their way over the East African plains, there to roam at large, with their countless herds of cattle.

With one blow their power was annihilated by the pest that came from Europe, that scourge of the cattle-breeder. I often found circular collections of bones of cattle. One could see them from the far distance on the velt shining white in the sun. Intermingled with them were numerous human skulls. These were the camping-places of the Masai in the year 1890.

Over and over again the self-same drama was enacted. The cattle sickened and died. Remedies and charms availed nought. In a few days the camp was pest-ridden, and men, women, and children, helpless and without food, died in agony. Only scanty remnants now survive of the once great Masai people. In their days of need their women and children were sent out or sold as agricultural slaves to more prosperous races.

The buffalo-herds disappeared almost entirely at that time, and in German and British East Africa only a few survive. And as it happened here to the Masai people and the buffalo-herds, so did it happen to the Indians and bison in America. The progress of civilisation is indeed cruel and merciless. Mankind must spread over

the face of the world in millions, everything else must give way, fast or slowly, to the higher merciless law.

Few indeed are the buffaloes that remain in the parts of the Masai-Nyika that are known to me. In the Pangani marshes I know a herd of a few solitary old bulls. In the neighbourhood of Lake Manjara there is another. Near Nguruman a small number may be found. On the

TOWARDS EVENING GREAT FLOCKS OF MARABOUS ASSEMBLED ON THE MERKER LAKES

high plateau of Mau, in British East Africa, I sighted five heads, and a few others in the Njiri marshes. Here and there a few other small herds may make their haunts. In the whole of northern German East Africa these are all that remain of the former abundance.

But wherever these scanty remnants are found they are mercilessly hunted. A European known to me killed five in one day, as he managed to find them close together.

Some armed natives killed as many in one single day about two years ago on the lower Pangani River.

I have known some curious pretexts put forward for he killing of buffaloes by Askaris, pretexts designed to evade the already existing protection-laws. A non-commissioned officer informed me, for instance, that a buffalo of which the horns had been brought him by an Askari had attacked a village, and had therefore had to be killed. And in another case I was actually told that a buffalo, whose horns I saw at a station, had been found drowned by the Askari who had brought him. Well, I suppose it is not to be expected that regulations can be easily enforced in a far-off land. In any case, the days of the beautiful wild buffalo are numbered in East Africa, and soon he will be on the list of the species that have died out.

SWINGING THEIR TAILS, THE GIRAFFES AMBLED AWAY

XV

Giraffes

AMONG the rarest and most singular of the large mammals still existing to-day is undoubtedly the giraffe, various forms of which are to be found in different parts of Africa.

The extraordinary appearance of giraffes makes us think of them as strange survivals from a prehistoric past—as the last representatives of a fauna long dead and gone. Next to the okapi (*Ocapia johnstoni*), which was discovered in 1901 by Sir Harry Johnston and Mr. L. Eriksson in the forests of Central Africa, and whose nearest relatives became extinct thousands of years ago, the giraffe is certainly the strangest-looking animal to be seen in Africa.

"In the country of Ererait lived the nomad cattle-breeders El Kamásia. . . . Their name for God was Em Ba, and they made themselves images of Him in the form of a giraffe with a hornless head." So Captain Merker tells us in his account of the origin of the Masai. Perhaps this hornless giraffe was the okapi, which may

have thriven at one time in more northern regions. The animal-cult of the Egyptians may well have influenced the Masai for a time.

There is nothing attractive about giraffes, so far as we know them from pictures, or from having seen them in captivity. But it is quite otherwise with them as met with in the wilderness. Zebras, leopards, and giraffes are so strikingly coloured that one would expect to find them conspicuous figures in their own haunts. But, as I have already remarked, these three kinds of animals have really a special protection in their colouring. It harmonises so perfectly with their surroundings that they are blended in the background, so to speak, and can easily be overlooked. It must be explained that one does not often see the animals close at hand. In certain lights, indeed, according to the position of the sun, zebras, leopards, and giraffes are so merged in the harmony of their surroundings that even when they are quite near the eye of man can easily be deceived. It is not only in the very dry season, when the plant-world stretches out before us in every hue from dirty brown to bright gold, that the giraffe harmonises with its surroundings in this way; you sometimes cannot distinguish its outline when backed by the green boughs of the trees in the shade.

The colouring of giraffes varies very much, even in the same herd. I have seen herds of forty-five or more heads, and from close quarters I have ascertained that some were striped quite darkly and some very lightly. All bulls are coloured more or less darkly.

C. G. Schillings, phot.

SCHILLINGS'S GIRAFFE, DISCOVERED BY THE AUTHOR, GOING PAST THE HIDING-PLACE FROM WHICH HE TOOK THIS PHOTO

Giraffes

Giraffes dwell chiefly on the plains. About seven-tenths of German East Africa represent an El Dorado for giraffes. Here they find all the conditions of life necessary to them. They can travel a long way from water, as they can do without it for several days at a time. During the rains they get as much water as they want from the moist leaves. Their food consists chiefly of foliage and of the thin branches of the different acacia-trees, as well as the leaves and twigs of many other trees.

So far as I myself have been able to observe, the giraffe never eats grass of any kind. Its anatomy and build are not suggestive of a graminivorous animal. When in captivity, of course, giraffes are fed on hay and fresh grass and clover, as are also elephants, rhinoceroses, and other animals, as it is hard, unfortunately, to find branches of trees and foliage in sufficient quantity for them. It is astonishing that, in spite of all this, such animals are able to live so many years in captivity; but I have never found them so well nourished in Europe as in their native haunts. The particularly well-nourished "twigga" which can be seen in my photographs became quite thin and meagre in captivity, so that the neck vertebræ protruded more and more. Their thriving to the extent they do under such different conditions is a sign of great adaptability. Very many of the large mammals are unable to reconcile themselves to the altered food. It is with the greatest difficulty that a large kudu is kept alive. I have had much trouble in convincing even zoological experts that giraffes in their free state were so shapely

and well nourished. My photographs have helped to prove this fact.

Giraffes do not dwell exclusively on the plains. At certain seasons of the year they find a refuge in the mountain woods, up to a height of 7,000 feet. This generally happens at the beginning of the drought. They do not, however, frequent the primeval forests.

One of my most interesting photographs is undoubtedly that of an old giraffe bull, in company with two aged male elephants. For weeks I observed this trio in the forests of the west Kilimanjaro district, anxious for the moment when a ray of sunlight would enable me to take a snapshot. But the usual rain-clouds of this period—I am speaking of the month of June—prevents the sun's rays from reaching the west side of the mountains. Only at night time do they disappear; early in the morning they are always hanging over the mountainous district.

After a long wait in the cold mist-like rain, and without a fire, I was at last rewarded by a few minutes of sunshine. This enabled me to take several snapshots, but only from a distance of at least 400 paces. Of course it was necessary to seize the opportunity just at the moment when both the elephants and the giraffe were visible among the high vegetation. At any moment the clouds might return and the sun disappear.

Other giraffes also had at this time found a halting-ground in the thick and luxurious growth of the forest. These herds would often remain for hours in close proximity to the elephants. The three animals in question chose out a place where the grass had grown so tall

that a man could not see over it. Later, under similar circumstances, I met with several herds of giraffes, especially of old bulls, in company sometimes with elands which had made their way high up into the mountains, so that I am in a position to state that the giraffe frequents the forests as well as the plains. They are intelligent enough, especially the experienced old bulls,

A BULL AND A COW GIRAFFE. THE BULL IS DISTINGUISHABLE BY ITS THICKER NECK

to seek safety in these woods from hunters, thus ridding themselves also of ticks and other parasites.

One of my most delightful experiences in Africa was the observing of these unique animals living their own natural lives in liberty. I had been informed that then (in 1896), in consequence of the rinderpest, the giraffe had almost disappeared, and was only to be found rarely and in out-of-the-way places. I do not deny that the

giraffes may have been attacked by the rinderpest, but I have seen no absolute proof of this. The giraffe has suffered more in any case from other enemies. The European and the Askari have been much more destructive. According as the hunting of elephants in East Africa has become more difficult, and the pursuit of the rhinoceros more dangerous, that of so easy a prey as the giraffe has grown in popularity. Every European hankers after the killing of at least one, if not several, specimens. There have been districts, too, where the Askari have literally used the giraffes for target-practice.

So long as it was an understood thing that the black soldiers might practise their rifle-shooting on the big game, so as to make themselves marksmen in the event of war, and so long as the "preservation of wild life" was a dead letter, so long did it seem that there was no hope of the giraffes escaping speedy annihilation. Much, however, has been done by the Protection of Game Conference in London, and especially by the regulations of Count Götzen, for German East Africa.

Muhammadans do not eat giraffe-flesh, or else the Sudanese Askari would probably have made still greater ravages among the animals. Even the natives hunt them. Poisoned arrows are made use of, and more particularly pit-holes. They are well hidden, and the giraffes cannot easily detect them, as they depend more on their eyesight than their sense of smell. Thus these "eye-animals," as Dr. Zells calls them, find great danger in the pitfalls, unlike the rhinoceroses and elephants which are "nose-animals."

Giraffes

In South Africa giraffes have been for long years a thing of the past. They fell too easy a prey when followed on horseback, and their skin was sought after for the manufacture of the long whips used by the Boers in driving their oxen. It is a regrettable fact that of late years a large number of giraffe-skins cut up into thongs have been exported to South Africa from

GIRAFFES TAKING TO FLIGHT AMONG FLUTE-ACACIA TREES

German East Africa. The newspaper which comes out in Tanga remarked some while ago on the market price of this rare article *per frasila* (35 lb.)! It was possible to bring the skins safely in this way to the coast for exportation in bundles weighing about 60 lb. Now that the Protection of Game Conference has decided that the giraffe is to be preserved, it is to be hoped that a check will be put upon this kind of trade, in view of

the comparatively small number of giraffes still remaining. Of course the Customs officials may be outwitted, if the thongs are cut very thin, by false declarations as to their nature.

As with all animals, we find the giraffe either shy or trusting according to its experience of men. Far out on the desert, where men are never seen, I found them so free from timidity that I was able to approach to within about two hundred paces of them. I succeeded, too, in discovering them by day in their haunts in the woods, and in getting quite close. But usually their timidity and caution do not allow of such liberties. Their keen eyes, as a rule, spot a man a great way off. A characteristic whisking of the long bushy tails, and a moving forward of the leader, whether bull or cow, from out of the shade of the tree under which the herd are taking their siesta, are the heralds of immediate flight. In spite of their awkward and clumsy-looking gait, they soon distance the unmounted hunter, and are lost to sight. After much trouble I once succeeded in photographing a herd of giraffes going full-trot. Generally speaking, giraffes are more difficult to photograph than any other animal.

Even when the giraffes are to be seen out in the open and the light is good, the photographer must get quite close to the herd to be able to take a picture. In the midst of jungle it is in most cases only possible to obtain photographs of a few single specimens that have somewhat separated from the herd. I had made many vain endeavours before I at last succeeded in

getting good pictures of several giraffes. The way in which the colouring of the animals blends with the surroundings offers one of the greatest difficulties to the photographer.

This is especially the case with regard to the species of giraffe which I was fortunate enough to discover. This *Giraffa schillingsi* has a shirt of an extraordinary

A BULL GIRAFFE WATCHING ME ANXIOUSLY

undecided colour that photographs very indistinctly, unlike that of the northern species, which is sharp and pronounced. Skins of this kind of giraffe were brought home from South Somaliland, after his last dangerous journey, by my friend the late Baron Carlo Erlanger, the great explorer and traveller.

The sight of a herd in flight is very interesting. They clatter in straight lines over the hard rough ground

of the plains. The whole unwieldy bodies of the animals swing backwards and forwards, their necks swaying like masts on a moving sea. They whisk their tails backwards and forwards when fleeing, or when their suspicion is awakened. After one shot the whole herd falls into a quick, sharp trot for a few moments, always flapping their tails most energetically. I am of opinion that by means of this flapping and whisking of tails the giraffes are able to communicate with and understand one another, and this theory has much to be said for it in view of the absolute dumbness of these animals. Even at a distance one notices the extraordinarily expressive eyes of the giraffe, and it is easy to believe that the animal is chiefly dependent upon them for its safety.

Dr. Zell concludes that giraffes have no sense of smell from the fact that when in captivity they try to eat the artificial flowers on the hats of the lady visitors; but this does not tally with my experience of the way in which they take to flight when one approaches them with an unfavourable wind. Deer, when in captivity, also seize eagerly upon paper and other stuff, and the desire for the artificial leaves in the ladies' hats can easily be explained by hunger engendered by the unnatural food with which giraffes are fed in captivity.

The poise of a giraffe's head is sometimes very expressive of curiosity and enquiry. The extremely grotesque appearance of the animal is never so noticeable as when it is seen standing sharp against the horizon, not unlike a high bare tree-trunk. Giraffes communicate with one another by the carriage of the neck and the

position of the body, as well as by their peculiar "tail language."

In two cases I noticed the red-billed ox-pecker—that true little friend of the rhinoceros—in the company of giraffes, to which it offered the same friendly services as to all pachyderms. In a sense giraffes also are pachydermatous. The skin of old bulls has in some

A PHOTOGRAPH OF GIRAFFES TAKEN WITH MY TELEPHOTO LENS

parts such a thickness that it withstands every art of the taxidermist, who finds it one of his most difficult tasks in the tropics, without the employment of salt and alum baths, to preserve the skin for safe transport to museums at home.

Very few European museums have a stuffed specimen of the huge African male elephant or of the huge old giraffe bull. I have made many efforts to save the skins

of these beautiful animals. I succeeded with several young, and especially with female, specimens, but never in preserving the whole skin of a very old bull undamaged. The reason lies in the fact that it is an impossibility to obtain vessels large enough to contain the skin, or to take the necessary quantities of salt and alum into the wilderness.

I soon saw the uselessness of my efforts, and after having spoilt three skins I left the old bulls undisturbed. This was doubly hard, because I knew that soon it would be too late! No gold on earth would then be able to re-create these rare creatures! The female specimens to be found in the museums of Stuttgart, Munich, Karlsruhe, and other places, which live again under the hands of the masterly taxidermist, show in a satisfactory manner that I was successful at least in bringing them to Europe in the best condition, thus retaining them for posterity.

It is much to be deplored that competent men are not subsidised to enable them to secure specimens of some of the largest mammals. Perhaps it will not be very long before large sums will be offered for single specimens. Already a single egg of the Great Auk costs more than £300, and it is not so very long since this bird died out. The prices of many other zoological rarities are equally high. In the near future the skins of giraffes now exhibited in the museums as rare objects will be valued at the highest figure. But no money can bring back to life a species that has died out.

Mr. H. A. Bryden informs us that some ten years ago certain native hunters in the service of European traders

killed about three hundred giraffes near Lake Ngami in South Africa. When one is told that even then the skins were worth £4 to £6 sterling, in order to be made into whips for oxen, there is no room for surprise at their wholesale slaughter.

This number was, however, as Mr. Bryden expressly states, only a small one compared to that of those killed

A WOUNDED BULL GIRAFFE AT CLOSE QUARTERS

south of the Zambesi. There, as has already been remarked, as in German East Africa, the animal is already hunted, and will be perhaps yet more hunted, for purposes of trade with South Africa; it is thus doubly to be desired that a number should be saved for scientific ends in good time. The invention of long-range, smokeless, small-calibre rifles has of course facilitated the destruction of the giraffe. Often those that are not killed upon the spot

sink afterwards in the thorny acacia-woods a few days later, there to fall victims to the vultures and hyænas.

A. H. Neumann, the well-known English elephant-hunter, remarks truly that he has never heard a sound from a giraffe. I also have never heard them utter a cry or even snort. The giraffe appears really to be dumb, an attribute that is not shared by many, if any, other animals so far as I know. Neumann says, as I do, that these wonderful animal-giants exist only in large numbers in the vast East African plains because they cannot be hunted there by mounted hunters on account of the climate.

Dr. Heinroth, one of our most distinguished zoologists, tells me that he has sometimes heard a low bleating sound made by the giraffe bulls in the Berlin Zoological Gardens. I leave it to be decided whether this sound is made only by the imprisoned giraffes or perhaps by the young ones.

It is with the greatest caution that the giraffes seek out water, chiefly about evening time or during the night, and they can, as already stated, remain several days without a further supply.

I was surprised sometimes to find cases of giraffes torn by lions; lions would only attack them, I think, in herds or in pairs. The fearful blow they give with their long legs (especially the bulls) might well hold even a lion in check. Near the Gileï volcano I killed a bull giraffe that had deep scratches on it, evidently made by lions, and that had the end of its tail bitten quite off. This indicates that lions sometimes attack them unsuccessfully. Giraffes generally keep to districts where all kinds

C. G. Schillings, phot.

FEMALE ZEBRAS AND A FOAL. PHOTOGRAPHED BY FLASHLIGHT

of game swarm, and are probably not often attacked by lions.

The German poet Freiligrath has graphically described a lion riding through his kingdom at night on the back of a giraffe. Such an incident is not beyond the range of possibility, but of course it would have a duration of only a few moments. The lion would soon kill its steed with a bite through the vertebræ of the neck. I myself can vouch for this having happened sometimes. Hundreds of vultures once guided me to a spot where two male giraffes were lying dead, killed by lions. In such dramas the genius of some great painter might well find inspiration.

A HALT ON THE WATERLESS VELT

XVI

Zebras

AMONG the most familiar of African animals is the zebra, which is found in two such absolutely different types in the north of German East Africa as *Equus boehmi* and *Equus granti*. Although of late years the numbers of these animals have been much thinned by breech-loading rifles, especially in the hands of the Askari, there are still large herds of them to be met with on the open plains.

The zebra is an animal of the plains and scrub; it is not to be found in the primeval forests and jungles, but it scampers up mountains of some height with wonderful agility. Zebras are often found in the company of ostriches, hartebeests, and gazelles; they show a special fondness for the society of gnus. I often found great herds of zebras and white-bearded gnus living together amicably and frequenting the same drinking-place.

C. G. Schillings, phot.

A HERD OF GNUS AND ZEBRAS HAD TAKEN REFUGE FROM THE GLARE OF THE SUN BENEATH A GREAT MONKEYBREAD TREE, BUT SCATTERED ON MY APPROACH

Zebras

"The shyest animal in Africa," a writer has described the zebra. Nothing could be more inaccurate. "It is the tamest," Mr. F. G. Jackson (the best-known English judge of the East African fauna) answered me laconically when I told him of this opinion in the year 1896.

As I have constantly to insist, animals only become shy when they are hunted. And where only natives have

THE GAY IN ONE OF THE COLORING OF THE ZEBRA BLENDED WITH THEIR SURROUNDINGS IN THE MIMOSA-WOOD WAS VERY BE-WILDERING

hunted and the animals have had no experience of long-range rifles. European hunters have no difficulty in getting easy shots at big game. Afterwards the animals very soon learn to alter their conduct.

I found zebras to be quite among the most trusting animals of West Africa: the sight of large crowds of these beautiful beasts on the wide plains may well be

termed one of the grandest spectacles in all the animal world.

According to statistics published at Dar-es-Salaam there are about fifty thousand zebras in German West Africa. I cannot conceive how any one has the courage to give such figures. A reckoning is so difficult; personally I should reckon it at a much higher figure—at quite several hundred thousand head! However this may be, the fifty thousand is much too low.

It is a curious fact that the striking black-and-white striped colouring of the zebras does not in any way render them noticeable in the surrounding landscape. According to the light, zebras seem quite differently coloured, even to looking grey all over; but even when their black-and-white colouring can be discerned close at hand it seems to harmonise in a remarkable manner with the colouring of the velt.

A curious example of protective resemblance is brought before our eyes when zebras are taking their noonday rest under the shady trees and bushes; the fluttering shadows made by the motion of the foliage mingle strangely with the stripes of the zebras. The assertion that wild asses are to be found in German West Africa is entirely founded on this fact. Moreover zebras very often roll in the dust, and then appear quite brown or red coloured.

The traveller over the East African deserts has no difficulty in understanding that the wild horses of Europe in times long past belonged to the most coveted wild game of the then primitive hunting-people. The East

African carrier prizes zebra-flesh very highly, and places it above all other game to be found in the same district, as the old beasts are beautifully plump, especially at the rainy season. This preference of caravan folk for zebra-flesh reminds us of the store set on flesh of wild horses in the days of primitive man.

It would be very interesting, and at the same time

A HERD OF ZEBRAS GLANCING AT ME ENQUIRINGLY

very sad, to know the number of zebras that were killed in former years—not only by the hunters, but by the Askaris of the patrols and caravans.

Zebras are polygamous, and the old males watch jealously over their harems. Frequently bloody skirmishes take place between the herds for the reason that the females of other herds are taken to replace those that

have been stolen by beasts of prey from the male zebras.

In an article on the domesticity of the zebra in a Dar-es-Salaam publication I found the opinion given that the wild zebra-herds were degenerating by inter-breeding. This statement is the outcome of sheer ignorance.

Under the guidance of a very cautious and watchful male leader the herd feels quite safe; if the sportsman wishes to approach the herd he will have to divert its attention. Enveloped in a cloud of dust, the herd gallops off to the open plains should its suspicion be aroused; then one often hears the peculiar dog-like barking noise, which zebras frequently make at night. Zebras are extraordinarily malicious animals; the inmates of our Zoological Gardens give us daily proof of this. Savagery and maliciousness are peculiar characteristics of wild equine species. [1]

It is known that when America was discovered horses were not extant there, the native equine species having long since died out. The great Spanish explorers were the first to bring horses from Europe into the New World. Some that escaped from captivity soon formed wild herds, and in the course of time these multiplied exceedingly.

In America there is question only of horses that have become wild—the Texas pony, for instance, which so distinguished a judge of horseflesh as Herr C. G. Müller-Doan-Gustavsruhe informed me is now quite

[1] *Domestic Animals*, by Edward Hahn.

C. G. Schillings, phot.

LEADERS OF A HERD OF ZEBRAS COMING DOWN TO A DRINKING-PLACE

demoralised, its wildness and troublesomeness having become so intensified in the course of a few centuries.

As Edward Hahn remarks in his work *Domestic Animals*, half-savage horses were sometimes much prized, until quite lately, because of their extraordinary powers of endurance, but feared on account of their ill-temper and awkwardness. On the high steppes of Asia especially, the old wild horses which are captured prove quite unmanageable in the hands of highly skilled riders.

Of recent years numerous attempts have been made to tame zebras and to render them serviceable to man, and the opinion has been widely promulgated that the zebra is destined in a very short time to be a beast of burden and a draft horse for East Africa. These statements meet with the more credence in that it is well known that ordinary horses cannot stand the unhealthy climate of East Africa, and if they do manage to exist for a time are not capable of any real work. South Somaliland constitutes the boundary line of the usefulness of horses and camels. Were it otherwise, the mounted Galla tribes would unquestionably have dispersed themselves southwards over the Tana River in the East African plains.

Only in the highly improbable event of an absolute preventive being discovered against the tsetse fly—perhaps also against malaria and other illnesses—will the employment of horses become possible in those lands.

Hitherto, while zebras, like all other sagacious animals,

have been found capable of being tamed, the efforts to make domestic animals of them have always failed. We know very little as to how man tamed the camel, our domestic cow, or horse, or in what way the breeds with which we are nowadays familiar came about. Whether the horse be the outcome of the interbreeding of two or of many species, in any case its present type is due to thousands of years of training and breeding by man. Perhaps the zebra is also destined to undergo a similar development; but this will not be brought about in a generation, or even in several generations.

In South Africa it was observed that zebras allowed themselves to be harnessed with ponies, and seemed relatively docile in their company, but that the moment—and this is the whole point of the thing—the moment hard and continuous work was expected, as from a horse, they simply became ill, and died of "broken hearts"!

The experiences of circus-managers are often interesting to hear of in connection with animals. I have been told by one of them that a male zebra, which had lived many years in the menagerie with other zebras, once made its escape and disappeared somewhere in the menagerie, and could not be caught for some hours. In spite of the united efforts of the assembled circus employés, it was only after many hours that the dangerous animal was brought back to his stall, and then only by dint of surrounding it by boards and beams.

The men who break-in animals for circus performances are prone to the use of coercion with them, instead of trying to develop their sagacity. In the case of zebras,

C. G. Schillings, phot.

A LION WAS VERY POSSIBLY HEARD ROARING IN THE DISTANCE AT THE MOMENT THIS PHOTOGRAPH WAS TAKEN

no amount of breaking-in with the use of the whip would serve to demonstrate that they are tameable, in the true sense of the word. Never for one instant do they go forward willingly; instead, they offer resistance at every stage, working against the bit with their extraordinarily strong lower jaws. Ponies are used to coach them, their natural sociability favouring this arrangement. In the same way in southern countries, when three, four, or more mules are harnessed in line, in ninety-nine cases out of a hundred they will only work with a horse at their head as leader.

In the case of zebras harnessed together with ponies in four-in-hands (in England and elsewhere) the animals are always half-fed specimens, and are not made to do much work. They are really not beasts of burden. The whole thing is merely a game, so to speak. The zebra, indeed, is not built for work. The only genuine species of wild horse living in Inner Asia, the *Equus przevalskii*, has a very favourable build. My opinion on this point accords entirely with that of the most distinguished living expert in these matters, Count Lehndorff, with whom I discussed them once while we were visiting together the zebras and wild horses of the Berlin Zoological Gardens.

Up till now it has been impossible to train zebras in the way lions, tigers, and other such wild animals have been trained, yet I do not hesitate to affirm that these beasts of prey are less dangerous to handle than the zebras with their fearful bite.

The character of our cold-blooded horse has been

greatly improved in the last century, owing to the use of only stallions of good quality and in good condition for breeding purposes. Still, even now very troublesome specimens are found sometimes among these domestic animals.

In my younger days I often occupied myself with the breaking-in of troublesome horses, and my experience with them forbids me to entertain any hope of our being able to use zebras for several generations yet, as a means of settling the question of animal transport in West Africa. It should be remembered that the natives of German East Africa do not understand horses, and do not even know how to manage their patient donkeys.

I am of opinion that we shall have very valuable material in the Wanyamwezi and Masai donkeys, which hitherto have not been thoroughly appreciated. These native donkeys show themselves easily satisfied as regards food, and are comparatively hardened to climatic influence. They are phlegmatic beasts and adapt themselves to all manner of treatment, and they afford material which in the course of a few years, by means of careful breeding, will be much improved. Their blood is crossed with that of the Maskat donkey, animals which come from a dry climate and are accustomed to a special food. I maintain that this is a mistaken policy, as it renders the native donkeys liable to those cattle-diseases with which we are still unable to cope.

If I maintain the employment of captive and "tamed" zebras to be quite unfeasible, and state clearly that the notion sometimes entertained with regard to mounting

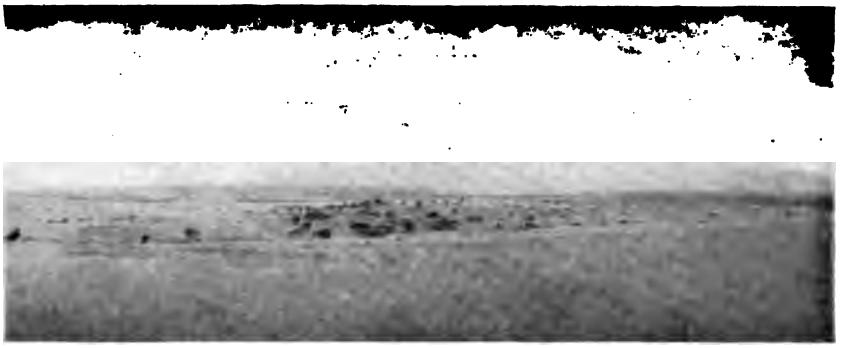
troops upon zebras is merely Utopian, still I should like emphatically to uphold the opinion that experiments ought to be undertaken in the direction of interbreeding zebras with horses and donkeys in the hope of producing useful domestic animals in the course of some generations. But I believe that such an undertaking must be in the hands of the State. I am a declared opponent to the attempted development of the colonies by means of State money, and much wish that private capital and private enterprise would develop our colonies over the seas so far as possible; still, I believe that in zebra-breeding lies a fruitful task for the State.

It is a pity that we should have lost the faculty of making useful domestic companions for ourselves out of the rich stores of the animal world (such exceptions as canaries and turkeys are hardly worth mentioning). While the primeval races of wild horses on the high plains of Asia, the *Equus przevalskii*, are rapidly approaching extinction, we have in these zebras of East Africa an incalculable supply of what might prove splendid substitutes ready to our hand. The duty waxes imperious, I may well say, for those in power to make the trial whether, after a certain number of years, the zebra cannot be rendered suitable, in the hands of man, to enter the ranks of domestic animals. Only thus can it be preserved from entire destruction.

Whether it be a race susceptible of development, or whether, like many human races, it be calculated to resist all outside influences, preferring to go under rather than change, is a matter which will take the breeder many decades of repeated trials to decide. Quite recently I

heard a so-called expert connected with a German zebra-ranche holding forth upon the methods of a farmer in South America, who for years had *crossed cattle with horses*, and I could not help wishing that serious people would come to the fore and occupy themselves with this highly important question!

I greet with joy the fact that Governor Count Götzen has placed the zebra on the list of the animals to be absolutely preserved in German East Africa.



VIEW NEAR THE KITUMBIN VOLCANO

XVII

Lions

EQUATORIAL East Africa is without doubt as rich in lions as any other part of the continent. Nevertheless, the prospect of encountering them is, from many causes, slighter than used to be the case in South Africa, and still is in other regions in which horses can live. In Somaliland for instance, the lion is hunted on horseback, so that he can be followed until he is tired out, and can then be shot. In South Africa they used to hunt lions with dogs. Neither practice is possible in Equatorial East Africa, as horses cannot live there, and the dogs are useless for this purpose.

The hunter has therefore to depend upon being favoured by circumstances—often to find himself unarmed just when his chance has come! Or else he must have recourse to nocturnal expeditions—a method which, generally speaking, is not to my taste. On these night "shoots" you either fire from some eminence or out of

a thorn-bush, and there is no doubt that they are often fruitful enough. In this way it was that Count Coudenhove some years ago in Somaliland shot seven lions in one night on the dead body of an elephant. He describes the incident lucidly in the account of his travels. I think highly of his description. It seems to me absolutely convincing, and without exaggeration of any kind.

Count Coudenhove tells us how he was gradually bewildered by the way in which lion after lion kept turning up continually quite near him during the night, and thus went through a by no means enviable experience. I have myself had similar experiences on such occasions. They have given me many interesting opportunities of studying the habits of animals at night time, but I must say that I don't think much of the shooting of lions at short range from the security of a thorn-bush as a sport. The darkness necessitates your shooting more or less by guesswork ; sleep, so essential to you in these unhealthy climates, is interfered with, and your day's work is entirely upset.

I consider every other kind of lion-hunting preferable to these night-shoots, even the iron-plate trap method, which often has very dangerous and exciting consequences owing to the lion breaking away with the iron.

The lion leads a nocturnal existence generally speaking, and rests under trees and in bushes during the day. By day, therefore, he is very seldom to be seen. Even when you do sight him, he has generally sighted you first, and disappears into the thicket before you can get a shot at him. So far back as 1896 I ventured to

state, on the strength of my own observations, that lions live sometimes in herds. Most of our knowledge of lions is derived from the north of Africa, from regions in which, as far back as we can trace, their numbers have always been decimated by the inhabitants. Undoubtedly lions used occasionally to live in herds at one time everywhere. The greatest number I have ever seen in a herd was seventeen. An eminent English observer has seen as many as twenty-seven on one occasion. Sometimes two or three lionesses with cubs join forces in search of prey. Similarly you will find several male lions together, and male lions with two lionesses; old lionesses and very old lions—often with defective teeth—going about alone. It all depends, seemingly, on the time of the year and the mating-season.

It may be laid down as a general rule that lions that have had their fill are not disposed to attack. In Africa, where wild life is so plentiful, they are seldom at a loss for food. In other countries, in which there is a scarcity of wild life, they prey upon cattle and give much more trouble to man. In Africa, by leaving unfinished the prey they have killed, they often put the native in the way of a meal, the vultures serving as unwitting sign-posts, pointing out to the native where the meal is to be found. From all this it will be evident that it is no easy matter to study the habits of the animal. Many travellers of note, some of the most famous African explorers amongst them, have never come in sight of a lion at all. Very few have succeeded in bringing down a lion single-handed.

Mr. Wallihan, my American fellow-sportsman, says in his *Camera Shots at Big Game* that in thirty years of hunting he has only come once face to face with a puma, the lion of America. He has killed several, and taken excellent photographs of still more, but all these were started by dogs. This reminds me of the fact that I only once saw the hyæna which I myself discovered (*Hyæna schillingsi*) in a state of freedom by day, though I have accounted for about ninety on various occasions, and have photographed a great number of them by night. One of my most trustworthy soldiers, who had long been in the service of the Government as an Askari, never succeeded in getting a shot at a lion, although, in accordance with the practice at that time (since then very properly abandoned by order of the Governor, Count Götzen), he was given for many years the exclusive right of shooting the wild animals in the neighbourhood, and had brought down thousands of all kinds—a fine way of turning all the old cartridges in the magazine to account!

Among travellers and sportsmen who have been fortunate in British East Africa I may mention the Duke A. F. von Mecklenburg and Prince Lichtenstein. It was in South Africa that the unrivalled sportsman F. C. Selous made his mark a good many years ago.

In some instances young lions of only about ten months old are to be found in search of prey on their own account, apart from their mothers. The young lions which I have had opportunities of observing, or which I have brought home to Europe, were all strongly marked with

spots; and I remember an experienced African traveller, who knew a good deal about lions, declaring in consequence that they were leopards.

It is noteworthy that the East African lions, as a rule, have not such strongly developed manes as those in captivity, or as those from North and South Africa. The

A LIONESS FRIGHTENED FROM A CARCASE BY THE FLASHLIGHT

causes of the differences in the growth of the manes have not yet been established. You see many full-grown male lions in East Africa entirely without manes—I have shot some myself—and a really strong mane seems to be nearly always the outcome of captivity. It is said that lions have small manes generally in very thorny regions. This, however, does not accord with my observations.

In those parts of Africa in which I have travelled the lion's favourite prey is the zebra, and in this liking for zebra-flesh he is of one mind with the caravan-carriers, who also prefer it to any other. Full-grown rhinoceroses and hippopotamuses, and of course elephants, are not molested by him; but their young ones are preyed upon, as well as all other animals down to the small antelopes. Trustworthy observers tell also of his encounters with porcupines, in which he often sustains damage.

Lions often hunt in combination, driving their prey towards each other. This I have ascertained beyond dispute by studying their tracks and by watching them at night. They seem to communicate with each other by their roars. In pouncing upon their prey, especially when drinking, they make astounding springs; I have measured some which covered twenty-four feet. Their favourite plan is to take up their position on some high spot, on the steep bank of a river, say, and spring down sideways from this spot upon their quarry. Unlike leopards, they are unable to climb trees.

In the dry season great numbers of lions are to be seen together at the drinking-places. By the stream alongside which I took my best lion-photos I have seen a group of over thirty lions of all sizes and ages. In the early morning I could ascertain by studying their tracks that they were moving about in herds. When the rainy season came along these herds broke up, and the lions spread about over a wide area in pursuit of prey, each on his own account.

I cannot test the accuracy of the well-known narratives

of the famous lion-hunter Jules Gérard, as they have to do with the lions of North Africa, which are now so reduced in number. His lions were certainly quite different animals from those which have come under my observation. He killed about forty, some of them from secure hiding-places, it must be noted, and was considered a hero in Algiers in his day. Gérard was undoubtedly a man of extraordinary courage, but it must be admitted that many of his stories are so fanciful that they lack the impress of truth. His story, for instance, of how he saw two lions fighting for a lioness who managed to set them both at another very powerful male, and how the latter killed the two original rivals, is very ridiculous; but I agree with every line of what he says elsewhere: "He who has not seen a full-grown lion in his savage state, dead or alive, may well believe in the possibility of single combat, sword only in hand, with this beast. But he who *has* knows that in an encounter with a lion a man is like a mouse in the claws of a cat."

The lion has always had a kind of glamour over him, and has come to be known as the King of Beasts. In common with many experienced observers, I hold that this title should be given rather to the African elephant. Lions, as a matter of fact, display widely different qualities in different regions and under different conditions, as is the case with other animals. Some of the old and experienced individuals develop into hunters of men, corresponding with the man-eating tigers of India.

Then there is a great difference between the lion sated and the lion hungry. The latter—lionesses with

cubs especially—are quick to attack, and consequently dangerous. I always prefer to shoot the lioness first, the lion afterwards—as the former is apt sometimes to spring on you while you are aiming at her mate. In this she compares very advantageously with him, for he shows no such gallantry. Natives have often told me the same thing.

Lions that are not hungry almost always avoid an encounter with men. Of course there are exceptions, as will be gathered from my own account of a lion-hunt on the heights of Kikuyu. Keepers in zoological gardens have observed the same thing. Lions, they say, show every degree of good-humour or ill-temper according to their age and the way they have been reared and looked after. What can be done by careful treatment is shown by the almost proverbial methods of the trainer Havemann, who moves in and out among his animal pupils in the Berlin Zoological Gardens in the friendliest manner, without ever having to use force with them, simply as the result of the excellent way in which he looks after them.

Although it is often asserted that lions are given, like leopards, to making their way into houses at night time and carrying off human beings from inside, I have come across few authentic cases of this kind. While the Uganda railway was in course of construction, two officials connected with it were spending the night in a railway waggon, the door of which was left open on account of the heat. Awakened by a noise, one of them, who was sleeping upon a high bed-contrivance, looked down to

where his companion had been lying on the floor, and saw him being dragged away by a lion. The lion would seem to have killed the sleeper instantaneously with a bite on the nape of the neck, according to its habit. This event caused a great sensation throughout East Africa a few years ago. Before this, it should be noted, lions had killed about forty of the Indians who were

ON THE GILLI VOLCANIC MOUNTAIN

employed on the railway, and who frequently slept in the open air, and the animals had developed in this way into regular man-eaters.

At night the lion always displays great indifference and freedom from fear with regard to men; nor is he much frightened by the lighting of fires, though these do afford the hunter a certain amount of protection. I have known several cases in which the natives near my

camp have been preyed upon by lions in spite of their having their camp-fires lit—though possibly gone down somewhat and only smouldering—while my own camp was left unmolested.

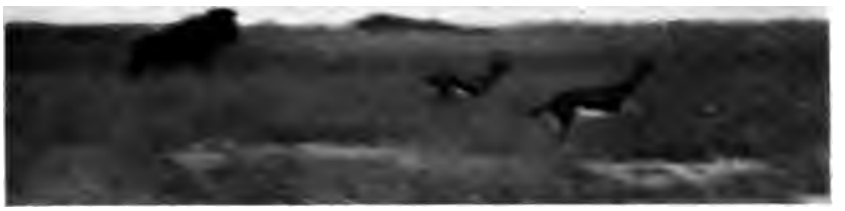
Lions have, however, sometimes approached within three or four paces of my camp, and even of my own tent. One dark night a large male lion nearly brushed against my tent on its way down to the stream by which it stood. He could have got to the water, either to the right or to the left, without finding any obstacle in his path. After drinking he returned the same way to the velt, and some twenty paces from my tent he stopped to inspect carefully a large bone, whitened by the sun, which had been lying there some time. This was ascertained next morning from his tracks. I set out after him next morning, but had to break off my pursuit after about four hours of it, as he had turned aside on to a stony part of the velt, where his tracks could not be discerned.

The same indifference is shown by lions during the night-shoots. They pay no attention to the hunter waiting inside the thorn-bush when they are making for the ass or steer tied up as a bait for them three or four paces off, and they can be shot therefore quite easily. From my own observations—made at night time, while I was engaged in photographing the animals—the lion does not make a great spring upon his prey, but creeps up towards it, stretching out its mighty body, and then is upon it like a lightning flash and kills it with a bite on the back of the neck.

In 1900 I witnessed a very interesting spectacle. I had been for several hours following up the tracks of some lions when I came suddenly upon an ostrich's nest with some young ostriches in it only just out of their shells, and with some eggs within a few hours of hatching. To my astonishment the lions seemed to have disdained the young birds. On examining the tracks more carefully, however, I learnt better. The old ostriches had evidently espied the lions in good time in the clear moonlight, and, as the tracks indicated unmistakably, had enticed them away from the nest by effecting a speedy retreat. The lions had followed the ostriches for about a hundred yards with long springs, but had then, seeing the pursuit was hopeless, fallen back into their ordinary stride. In this way the ostriches succeeded in saving their threatened brood. It was intensely interesting thus to learn how clever these great birds are in evading the attack of their dangerous enemies.

What the natives say about lionesses being more aggressive and dangerous than male lions is quite borne out by my photographs, the lioness in every case being the first to pounce on the prey, and the lions always coming second into action. Here I would repeat that lions as a rule hunt only at night, never during the daytime, except at the coolest time of the year. During the hot season and in the middle of the day they rest in the shade. In captivity also lions show their sensitiveness to heat, and lion-trainers always find that on hot summer days their pupils are but little disposed to show off their accomplishments.

This reminds me that lions were probably to be found in Greece not so very long ago, as they still are in Asia, though in very small numbers. These lions show themselves capable of bearing quite high degrees of cold, if they do not go so far north as their near kin the tiger. The Siberian tiger, a recognised species of the genus, lives in the midst of snow and ice, protected against the coldest season by a thick winter coat. The pair of splendid Siberian tigers in the Berlin Zoological Gardens show by the way they thrive and breed that, living as they do the whole year in the open air, they are excellently suited in our climate, as is the corresponding species of lion from North-Eastern Asia. The temperature goes down almost to freezing-point also on the uplands of East Africa, and on cold nights the roar of the lion resounds far and wide over the velt.



A TRIO I SAW TOGETHER ON SEVERAL OCCASIONS: A GNU BULL, A THOMSON'S GAZELLE, AND A GERENUK GAZELLE

XVIII

A Lion-Hunt

AT the end of January 1897 I arrived in Kikuyu with a small caravan. I had come from Victoria Nyanza, where I had been down with malaria for several months. Alone and helpless, I had a hard tussle for my life, but thanks entirely to the untiring care given me by two officers, Mr. C. W. Hobley and Mr. Tompkins, stationed at Fort Mumia, I succeeded, against all probability, in shaking off the fever.

In May 1896 the exploring expedition, which I had been able to join, had set out from the German Coast with about 420 men, and, after traversing some entirely unknown regions, had reached Victoria Nyanza.

I cannot here enter upon the story of the varied and in some cases very interesting experiences met with on this stage of the expedition. Here I propose to recount only what happened to me on January 25th, when on my way to the coast of Kikuyu. I was traversing for the first time that recently explored country in order to

get back to the sea and to Europe, for, in view of my weak condition after the fever, this was my intention at the time.

Down to the time of my illness I had had all kinds of hunting experiences, but on my journey to Kikuyu I had few opportunities of sport, and I was in any case too feeble to undertake much in the way of exertion. After we had attained the higher uplands my strength began to come back to me—astonishingly quickly, indeed—and with this sudden improvement in my health came back naturally all my zest and keenness for sport.

Upon the desolate plateau of the Mau primeval forests, with their endless bamboo-thickets, or in the woods between the Naiwasha Lake and Fort Smith in Kikuyu, I had not come across much in the way of wild life. My rifle kept silence for days together.

On January 24th I enjoyed the hospitality of the commander of the English station, who (as is always the pleasant custom in English colonies) not only in his private capacity, but also officially, showed every possible consideration for me and my caravan, lending us milking cows, providing us with donkeys and provisions, and doing everything in his power to help us and further our plans.

Mr. Hall, the commander of Fort Smith in Kikuyu, a man of most attractive personality, is one of the most experienced of African hunters, and is a sportsman of the right sort. We soon got talking of the one great theme out there—big-game shooting.

C. G. Schillings, phot.

Shortly before our arrival Mr. Hall had been tossed three times by a bull rhinoceros at which he had shot. Three of his ribs had been broken, and for months he had been obliged to keep to his bed. After his recovery from this he had an encounter with a leopard, which he had also shot and wounded. One of his Askaris saved him by a timely bullet from this dangerous assailant, which left him an undesirable memento, however, in the shape of several wounds and a long-continued stiffness of one leg.

These mishaps were not to keep him from hunting again now as much as he could. Previously, indeed, he had been shooting big game year after year without any kind of ill-luck.

Our talk was most interesting. We "swapped" experiences, and Mr. Hall said that lions were to be met with in plenty a few miles from the fort on the Athi plain, which is always rich in wild life. Corporal Ellis (of D Company of the Royal Engineers) confirmed this, and suggested that I should break my journey, and, after a day's rest in the fort, spend a night in his camp, five hours' journey away, and go out thence with him on a lion-hunt. He himself had shot a lioness right in front of his camp a fortnight before. I had already made a number of fruitless efforts to get a shot at a lion, and had not much confidence in succeeding now. I decided, however, to accept this friendly invitation.

Taking farewell cordially of Mr. Hall, I set off with Corporal Ellis, and after a march of several hours we reached the camp. He was in charge of a cattle-station

there, and had a large number of Askaris under his command.

I was interested in examining the skin of the lioness, and we agreed to set forth on our shoot early next morning. This we did. On crossing a small stream, quite an insignificant one in the dry season, after we had been several hours on our way towards Mount Nairobi, I pitched camp and ordered some of the men to bring firewood. The getting of this took about four hours, as none is to be got on the grassy Athi plains. Corporal Ellis was against our halting here, for, in his opinion, we should be in danger from the lions during the night. I held firmly to my decision, however, confessedly still sceptical as to so many lions really being forthcoming. Ellis, five men of our following, and I now made a little detour to follow the course of the stream, the upper part of which was covered for some miles by scanty growth.

On the plain we saw a number of gnus (*Connochætes albojubatus*), Grant's gazelle (*Gazella granti*), Coke's hartebeest (*Bubalis cokei*), Thomson's gazelle (*Gazella thomsoni*), zebras, and ostriches; but they were all very shy.

When we turned back towards camp, still following the river—with an unfavourable wind blowing—I must say I was not sanguine of our having any sport; but we had been only a quarter of an hour on the way, two of our party on one side of the stream, we ourselves on the other, when suddenly a cry, "Simba! Simba!—Simba Bwana! Kubwa Sana!" ("A lion, master! A big lion!") rang in our ears. The men on the other bank,

starting back in alarm, pointed with wild gestures towards a small clump of reeds in the water.

To hear and to bolt was the work of an instant, even for my reserve carrier Ramadan, a great strong Swahili, who had stood the test on other occasions. Obeying a first impulse I followed him ten paces, seized him by the neck, and ordered him to remain. He turned round, his whole body trembling, and went back with me, and we now sought to make out the lion among the reeds, from which a pool of about five yards' breadth divided us. We could not do so, however, though the men on the other side still motioned to us excitedly that a big lion was there. In another moment something moved among the reeds in Corporal Ellis's direction—his Martini-Henry rang out, and a large lioness, showing that she had been grazed, came for us with a sudden spring. For a second her head offered me a fair mark, and with a lucky shot at seven or eight paces I brought her down dead.

The bullet, a 4/5 steel one as usual, settled sideways in the nape of the neck, killing immediately, as always happens with such shots. I have preserved it in my collection of 8-millimetre bullets as a souvenir of the occasion.

My joy was intense! The corporal congratulated me heartily, and our return was heralded by all the men with shouts of glee. Twelve men carried our booty back to the camp. In the stomach we found the remains of a zebra.

After a quick breakfast we set out again to shoot

something for our dinner. Ellis, who went ahead, tried on some long shots at hartebeests, but did not bring any of them down. Meanwhile I became conscious of the symptoms of an attack of dysentery, which I may mention parenthetically I got rid of in a few days by dint of drastic treatment.

When I had been following Ellis for about half an hour, I saw to my right, at not too long range, a male Thomson's gazelle which I resolved to get. Motioning to my men to remain where they were, I advanced cautiously as best I could. Soon I had got to a distance of 300 yards from my three Askaris, and out of sight of them by reason of several slight swellings of the ground in between. Just as I was on the point of firing at the gazelle, from a distance of about seventy-five paces, my eye was caught by something yellow a hundred paces beyond it which I at once saw to be a lion's head. At the same moment I heard a well-known sound to my right, and turning round quickly saw a large dark-maned, growling lion, standing still in the grass a hundred to a hundred and twenty paces away. To all appearance, he had espied or scented the stalking hunter, and it was lucky he had not come nearer, as he might so easily have done, for all my attention had been centred on the gazelle.

I stood like a man benumbed! Two lions before me! It was a large order in the then state of my nerves after my long illness. It was by no means an agreeable situation for me, conscious as I was of my comparative helplessness. I could reckon on only one shot. For subsequent shots I should have to reload, and in spite

THE MALE OSTRICH WAS TO BE SEEN NEAR THE NEST

AN OSTRICH'S NEST. I OFTEN CAME UPON THEM IN THE AUTUMN

of long practice, I should find it difficult to shoot again if either of the lions came for me.[1]

There I stood, then, with my rifle raised, face to face with the nearer of my two adversaries—shall I call them?—the old dark-maned lion. A moment passed thus—a moment that seemed like eternity, and that yet, looked back upon now, seems a moment of ecstasy. The old lion eyed me, still growling away, but remaining quite still, with his head up and his tail to the ground. The other animal, a lioness apparently, remained lying half-concealed in a clump of tall grass. The gazelle had got to within twenty paces of me and had then fled away at full speed.

I experienced a not unnatural desire for the appearance of my men upon the scene, and this now happened, as I gathered from a shout they gave me—I did not dare to look round. They were calling out to me what sounded like "Simba ile kali sana!" ("That lion is a very dangerous one!"). I retired backwards step by step, keeping ready to fire at any moment, until at last I found myself again near my men. I beckoned to them, but they were not to be induced to advance the seventy paces or so that divided us until I ordered them in the most peremptory way to do so.

As soon as I had by me my "Baruti Boy," who held

[1] The mechanism of the 8 millimetre magazine-rifle a few years ago was unreliable according to my experience and that of many sportsmen. Therefore I preferred the single-loader. A check through the jamming of the cartridge occasionally made the rifle useless, and it took some time to get it right.

in readiness a ·450 double-barrelled rifle, and my two other Askaris, "Baruti bin Ans" and "Ramadan," one of whom carried a 12-bore fowling-piece loaded with slug, for a final shot at close quarters, I could restrain myself no longer, and, against the wishes of my followers, I sent a bullet after the slowly receding lion, which only grazed him.

It was with difficulty now that I controlled my excitement. I loaded again, however, and got in another shot at the lion, which was now moving to one side. This shot also was not well aimed, hitting high up on one of his hind-paws. At once the lion turned round as quick as lightning, but did not yet attack me. Instead, roaring terribly, he whirled himself round ten or a dozen times, biting in mad fury at his damaged paw. He reminded me exactly of a plucky fox or jackal, badly wounded. This exhibition, however, afforded me the best of opportunities for further shots. I fired three times, two of my shots doing good execution. Soon he collapsed completely. When we came up to him, approaching with all the caution due in the case of such an animal, he was already dead.

The lioness meanwhile had taken to flight.

Our joy was without bounds. Corporal Ellis, who had come up to within about 200 paces of us while I was firing my last three shots, and had been a witness of the entire scene, congratulated me heartily, adding that he had not expected to see such marksmanship. I must admit he was right about the number of lions which infested that neighbourhood, and also that it was

very incautious of me to tackle two lions without waiting for him.

Next morning I sent two messengers with the news to Mr. Hall at Fort Smith, and two others with a letter for transmission to the leader of the expedition which was presently to pass over the same route. I told him of the chance he would have of getting some lion-shooting, and afterwards I learnt that he saw eight lions together on the same spot where I had shot mine, and that he had fired at them at long range without result.

My second lion was also a large old black-maned animal, whose scarred and seamed skin told of many a struggle with his own kind. It is noteworthy that, whereas the lions in certain other regions of Africa—those for instance to be met with upstream in the Rufu Valley—often have no manes, but are quite smooth like lionesses, these lions which live in Kikuyu, which is a relatively cold district and lies high, are provided with abundant manes of a dark colour.

Now ensued a triumphal march to the camp, followed by a careful skinning of this second lion and the preparation of both skins. Corporal Ellis thought it was time for him to return to his own camp, as he did not wish to traverse the plain towards evening.

Merely for the purpose of bringing down some game by way of provisions, I set out again about two hours before sunset and succeeded in getting several Thomson's gazelles. I stalked a hartebeest buck for a long distance, which I had wounded, but could get no chance of killing him.

C. G. Schillings, phot.

While thus engaged, I had again got out of sight of my men, and now again I heard the same warning growls just as I had at midday! Looking to one side I saw first one, then a second, then a third, then a fourth lion—all with manes! There was a distance of only about one hundred and twenty-five paces between me and the nearest of them.

This time I lost my nerve. I tried to retreat, with the result that the nearest lion made two springs forward and then began to creep slowly towards me. I remained standing motionless. The lion remained stretched out watching me. Minutes passed thus—ten long minutes at least—and now my men were to be seen some distance away. As soon as they came in sight of the lions and took in my position, my trusty "Baruti Boy"—no Swahili, but a member of a branch of the Manyema race suspected of cannibalism—was the first to come up to me, with my ·450-rifle in his hands. The others followed him slowly, but they did not dare to come very far, and were not to be induced to come right up to me.

The lions were now getting much disquieted, and began to growl. They made a majestic and unique picture, standing out in sharp outline against the velt in the rays of the setting sun, the undulating ground behind them blending with the far horizon in the quivering, glistening twilight. As the warning growls and the whole demeanour of the animals were very different from those of the lion I had shot in the morning, I came to the conclusion that they were hungry, and therefore would prove dangerous to deal with; and having no reserve

rifle, as already mentioned, I backed cautiously to where my men were. Now followed a "Schauri"—a conference—with them, in which I endeavoured to make them come on with me, but in vain.

At last I sent back two carriers, who had returned from securing the two antelopes I had shot, to the camp for reinforcements. Without waiting for their arrival, however, I determined, being now myself again, and having at last induced my men to approach within two hundred paces of the lions, to manage the thing single-handed. I fired at the nearest of them, but missed. At once he came springing towards us, but at about the twentieth spring he stopped, roared, and then wheeled round slowly. Upon this all the lions made off, walking at first, then at a trot, and finally at an awkward kind of a gallop—going two by two. Later they parted company, still in pairs. Thus began one of the most interesting and exciting adventures of my whole journey.

We followed the hindmost of the two pairs for about half an hour over the plain, always in the direction of the setting sun. We ran uninterruptedly, except when the lions stood still and eyed us; then we walked. We gasped for breath presently, only two of my men keeping up with me. But I had become so set on bagging these two lions that I achieved what was probably the quickest and longest run of my life—and I have memories of many wagers won over long runs! I was determined to get a shot at him, *coûte que coûte*!

Soon their distance from us was narrowed to about 400 paces—then it went up to 500 again, and 600.

But on we went, still gasping, over the plain. Presently it looked as though all our efforts were to go for nothing—the distance between us was growing greater. Suddenly I came to a quick decision. Perhaps by a miracle I might bring off a hit, even at such long range! I fired, and could distinctly see where the bullet struck, about ten paces behind one of the lions. He took it

ORGEICH SUPERINTENDING THE TRANSPORT OF A YOUNG LION INTO CAMP

in very bad part! He turned round, remained standing where he was and roared, beating violently with his tail. The further lion also stopped in his flight. I fired a second shot—then a third, this one at the further lion. He showed his anger in the same way—standing still, roaring and beating with his tail.

There! The fourth or fifth bullet has found its billet! The lion hit comes rushing at us with long

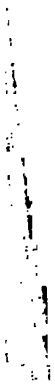
springs. Suddenly he breaks down—then three or four more staggering crooked springs, and suddenly he collapses—growling rather than roaring in his fury. I cannot explain how it came about, but I now put aside all caution and common sense. I ran on to within 120 paces of the wounded animal, fired—and missed! Now came the critical moment. On he came again with a succession of frenzied springs. I knelt to my next shot so as to manage it quietly and make dead certain of it. Again he collapsed. Now for it! One more shot at a hundred paces, and my third lion springs into the air, tumbles over backwards, and falls dead.

In the madness of our delight we rushed up to where he lay, spoilt by this success and forgetting all caution. However, it was all right. He was quite dead—an even finer specimen than the one killed at midday, and with a still darker mane. We skinned him quickly, as soon as our rear-guard came up to us, about ten minutes later. Head and paws were left unsevered from the rest of the skin. In the stomach we found nothing—in contrast with the lion shot in the early morning, whose stomach we had found full of zebra-flesh and great pieces of skin. This explained how this third lion came to be so much more full of fight.

Now something occurred which is rare indeed in Africa with the native. My men lost the way, and as we started on our return journey just as the sun was setting we soon strayed. Six men were told off to carry the heavy skin—in relays of three—and our progress was made under very unsatisfactory conditions

C. G. Schillings, phot.

THE SKINS OF THE THREE LIONS SHOT BY THE AUTHOR JANUARY 25, 1897. THE AUTHOR HIMSELF AND HIS SWAHILI RIFLE-BEARER IN FRONT OF THE TENT



owing to the anxiety of my men to get out of the "Plain of Lions," and to the way in which they hung together like sheep. Within fifteen minutes, as is the way in the tropics, it was quite dark, and two hours went by before we reached camp, half owing to a lucky chance. I had to march at the head of my little caravan all the time.

When at last, however, we reached our goal all our troubles were forgotten, and we gave way to our feelings of joy. By the light of the camp-fire the skin was spread out, to be cleaned next morning. Four sentries kept watch all that night, but although lions were to be heard roaring in the distance, nothing happened of any importance.

Next morning a deputation of my men came to salute me and christen me with pomp and ceremony. I was dubbed "Bwana Sinba" ("The Lion-Lord"), instead of "Bwana ndege" ("The Bird-Lord"), which appellation I had acquired on the coast, because I shot birds (often on the wing, to the astonishment of the natives) and collected their skins.

On the stock of my trusty rifle, supplied, like all my weapons, by Altmeister Reeb of Bonn, I inscribed the words, "Three lions, 25 Jan. 97."

Fresh messages went now to Fort Smith. To Mr. Hall I wrote again, now recommending him in my turn to come and hunt lions in this neighbourhood; and as I intended to remain for a few days, some additional provisions were forwarded from Port Smith for my carriers. Mr. Hall himself was unable to avail himself of my

invitation, as he was expecting Mr. Barclay from Uganda that day. I got to know Mr. Barclay later at Kibwezi, and was able to show him my trophies, of which he had heard a good deal.

Eight more days I spent upon the plain without getting another shot at a lion. We had to content ourselves with hearing the roaring of lions at night, by way of lullaby. The tremendous effect of this roaring as heard in the stillness of the African night is indescribable.

The flesh of all my three lions was devoured the same night by hyænas, and the bones as well. There was nothing left of them. Hyænas are in great force in Kikuyu, because the "Wakikuyu"—the natives—give their dead to them to devour instead of burying them.

The 25th of January, 1897, will always remain a red-letter day in my memory, and would do so even if I had not my three fine lion-skins, prepared by the cunning hand of Robert Banzer, to serve as decorations to my room of African trophies.

END OF VOL. I.

Printed by Hazell, Watson & Viney, Ld., London and Aylesbury.

ERAL BOOKBINDING CO.
520ST 53 005 A 2V 6099
TY CONTROL MARK

Stanford University Libraries
3 6105 010 578 248

SK251
S23
V.1

DATE DUE

STANFORD UNIVERSITY LIBRARIES
CECIL H. GREEN LIBRARY
STANFORD, CALIFORNIA 94305-6004
(415) 723-1493

All books may be recalled after 7 days

DATE DUE

DOC JUN 23 1997

JUN 2000

DEC 28 2000